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Dana R. Miller

The Third Kind in Plato's Timaeus

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Dorothea Frede

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Preface

This book is the result of being astonished by Plato's declaration in the *Timaeus* that we should distinguish a third Kind of thing beyond the Kinds "what is" and "what comes to be." When I read this, questions sprang to my mind such as, "How could there be such a Kind of thing?" "What is it?" "Why only in the *Timaeus* does Plato mention it if this Kind is so fundamental?" "Is this a metaphysical claim or a claim about the physical world or is it both?" But a reading of Plato's account of the new Kind, approximately one twelfth of the *Timaeus*, provides no plain answers. On the contrary, the account causes even more perplexity. So, perhaps naively confident that Plato's meaning is somehow discoverable, I undertook this work. Here I restrict myself to Plato's explicit concerns in the *Timaeus*. I do not, for example, speculate on whether the introduction of a third Kind constitutes a profound shift in Plato's later metaphysics, nor do I attempt to situate Plato's account of the Receptacle in Presocratic discussions of a material principle. These are, no doubt, important and interesting subjects, but I think they deserve separate treatment and addressing them here would not serve my primary goal, which is to discover an interpretation of Plato's account of the third Kind that unites what he says into a coherent argument.

From the very beginning I wish to alert the reader of a possible source of confusion. Tradition has named the subject of Plato's account the "Receptacle" even though the term is one among many analogical expressions that Plato uses in the account. In the Introduction and Chapter One I comply with the traditional usage so as not to introduce unneeded, and undefended, complexity. However, my interpretation of Plato's account, which begins in Chapter Two, distinguishes a metaphysical third Kind and members of this Kind, the Receptacle and place. Therefore in my interpretation the term "Receptacle" refers only to the material base of the elemental bodies, as will become quite evident. After Chapter Two I do not use "Receptacle" as a broad term for Plato's subject, as is commonly done.

I wish to acknowledge the help I have received while puzzling over Plato's third Kind for many years. First, my deepest gratitude to Gisela Striker who has always been for me a paradigm of rationality. Then, to Dorothea Frede for many excellent suggestions on how to improve this book. To Mi-Kyoung Lee for many discussions over the years when I felt I could not overcome uncertainties. To Thomas Johansen for taking the trouble to read and criticize earlier drafts of several chapters, to Christian Wildberg for his encouragement, and to Jodi Baldassano for editorial help. Readers who find my interpretation of Plato implausible should not suppose that these philosophical friends bear any responsibility, while readers who gain something of value from this book owe them thanks as well.

Introduction

Νέοι ἔστε τὰς ψυχὰς πάντες· οὐδεμίαν γὰρ
ἐν αὐταῖς ἔχετε δι' ἀρχαίαν ἀκοήν παλαιάν δόξαν
οὐδὲ μάθημα χρόνῳ πολιὸν οὐδέν.
(*Tim.* 22b6–8)

This book is about a puzzle. In the *Timaeus* Plato seems to be arguing that the physical world has as fundamental an entity (the Receptacle) that is somehow metaphysical, that remains a stable referent during constant elemental change, and that is place in which bodies come to be and move. The puzzle, then, is: how could there be a thing that has such diverse descriptions? As philosophically minded readers are seldom content to leave puzzles unsolved, many solutions to the puzzle have been proposed. Among them, that Plato has gotten himself seriously confused, that Plato's intuitions have leaped many centuries ahead of his time by collapsing the distinction between material and spatial extension or by proposing a quasi-phenomenalist account of the physical world, or that Plato is introducing just a notion of matter or just a notion of space under different descriptions. The fact that all of these proposals can find support in what Plato says shows how puzzling his account of the Receptacle is.

The support that Plato's account of the Receptacle offers to very diverse interpretations might suggest that yet another attempt to explain away the puzzle is effort wasted. This, I think, would be the case if all the interpretations produced over the last twenty-four centuries had proceeded in the same manner and had precisely the same intent, namely, to make as clear as possible what Plato is actually claiming. But philosophers, as a rule, are less often concerned with exposition and clarification than they are with situating a claim or a perceived claim within a conceptual framework of their own devising. They have strong precedents for this. Philosophy as we know it in the West began with Plato and Aristotle. Neither Plato's treatment of Protagoras or Parmenides, for example, nor Aristotle's treatment of Plato or any of his predecessors displays an interest in clarifying for us what those authors' real views were or how we should understand statements cited from their works. Both Plato and Aristotle considered the views of earlier philosophers to be old implements to be placed in the fire of argument and hammered out into devices for dialectical use. Following this powerful lead philosophical interpretation of Plato's account of the Receptacle has often been framed in relation to an interpreter's own philosophical enterprise. To proceed in this manner need not entail that such an interpreter gets Plato wrong, but I think

it is obvious that an interpretation would have a better chance at getting Plato right if it were framed in relation to Plato's philosophical enterprise. Many of the more recent solutions have taken this approach. This approach, however, is not devoid of obstacles. What, we should like to know, is Plato's philosophical enterprise? Even if we could broadly answer this question, how should we apply the answer to the case in point, the Receptacle? The dialogues are replete with discussions of ethics, politics, psychology, epistemology, and metaphysics, but the *Timaeus* is Plato's only treatment of the physical world. To what extent should we apply the apparent conclusions of arguments in other dialogues about, say, metaphysics to the *Timaeus*? There is no easy answer here. If we choose to frame our account of the Receptacle in relation to Plato's philosophical views we shall have to assume (or argue for) an interpretation of these views and assume (or argue) further that they are what drives Plato's account in the *Timaeus*. This approach, then, will yield interpretations that are only as strong as their assumptions (or arguments) about these larger issues. So the plausibility of such an interpretation of the Receptacle rests on the plausibility of an interpretation of Plato's larger views. This raises the bar of plausibility still higher.

Another way to proceed is to work primarily and straightforwardly from what Plato says about the Receptacle. This would seem to be an obvious approach. Unfortunately it encounters immediate difficulty. If what Plato says about the Receptacle were manifestly intelligible there would be no puzzle to solve. Interpretations are needed because of the extreme obscurity of the account. Even so, I think that if our wish is to pin down Plato's meaning, we should do the hard work of grappling with him on his own mat. We may assume, I feel certain, that Plato had a conception, however vague, of the subject of his account, understood what he was writing, and felt his account accomplished, as far as possible, what he intended. If so, we should be able to discover what his conception was by examining what he says, by identifying and following the thread of argument that binds the account together. I am suggesting that a cautious examination of the text, one unencumbered by presuppositions, should reveal the solution to the puzzle. This assumes, however, that the text is intelligible to others besides Plato. I think it can be shown to be so.

The Receptacle is discussed from 47e3 to 53c3. Much, but by no means all, of the difficulty of the passage results from the tentative and indirect manner in which Plato makes his argument. Once, however, the argument is discerned and the various claims made take on their designated force, the passage loses much of its obscurity. And when the passage is no longer obscure, the solution to the puzzle is at hand. The argument can be discerned only by a careful study of what Plato says and reflection over the logical links that each statement has to the preceding statement, the statement that follows, and to the passage as a whole. I undertake this work in Chapter Three and the chapters that follow. I shall now state as concisely as possible the general argument of the passage, summarizing

the results of Chapter Three. For the sake of clarity I shall do so first in a very compressed form and afterwards in a less compressed form that mentions most of the claims that Plato makes in the passage.

Plato's argument compressed, omitting the Digression. Ordered coming-to-be is dependent upon (a) what is, as a paradigm, and (b) a "that in which" coming-to-be can occur, or put otherwise, something that "receives" it. These are metaphysical distinctions. Following these distinctions the coming-to-be of the elements requires a form-paradigm for each of the elements (= [a]), and a "receiver" (the Receptacle), that is, a "that in which" (= [b]). That there is such a thing as the "Receptacle" is evidenced by elemental change. Now what the Receptacle "receives" is a form, or formation. But if a receiver of form possesses its own form, that form will impede the reception of other forms. Therefore the Receptacle must be formless or form-neutral, at least with respect to the forms it "receives." If the Receptacle is to remain formless it cannot come to be what it "receives," that is to say, it cannot adopt for its own the form it "receives." Therefore the Receptacle, by "receiving," does not undergo coming-to-be, but it is affected or qualified by what occurs "in" it. What occurs "in" it is the coming-to-be of the elements. Therefore an elemental body is the Receptacle's being affected or qualified by its reception of the form of that element. Here follows a digression that I omit (see below). Because elemental coming-to-be occurs throughout the entire extent of the Receptacle, the Receptacle is diversely affected in different parts of itself. But non-uniformity is always accompanied by motion. Therefore the Receptacle moves, shakes. The Receptacle's shaking has the effect of gathering together like elemental bodies into the same region. With this claim Plato concludes his account of the Receptacle.

I shall now give a less compressed account of the argument, beginning at 47e3. In the production of the world two causal factors can be distinguished, what may be called mental causation and physical causation. Mental causation gives rise to order with an end in view; Plato calls it "intelligence." Physical causation refers to effects that must occur given the physical properties that objects have; Plato calls this "necessity." Plato, through Timaeus, holds that mental causation employs physical causation to produce the kind of world it seeks to produce. Therefore an account of the production of the world must include an account of physical causation. Physical properties belong to bodies; all bodies are composed of the four elements. The elements, however, are not simples; they too are composite entities that come to be. It follows that an account of physical causation and its effects must begin with an account of the coming-to-be or generation of the elements (elemental bodies). Looking at the generation of the elements from a temporal perspective, that is, the perspective of before and after, one can equally speak of a state of affairs that exists before a particular element comes to be and of a state of affairs that existed before any elements came to be. One can thus speak of a precosmic state of affairs that was rendered orderly by the effect of

mental causation, the first step being the formation of the elements. So the generation of the elements is a question both about how this occurs now and about how it occurred as a first step in the production of a cosmos out of a precosmic state (47e3–48e1).

An account of the generation of the elements requires a consideration of a different kind of thing than has so far been mentioned. Why this is the case is made evident by examination of two basic facts about the elements: that they are composites and that they are constantly breaking down into their constituent parts and reforming into other elemental bodies. First, however, it is proper to recognize that distinctions between kinds of things should be based on metaphysical distinctions. To this point in the *Timaeus* two Kinds have been distinguished, what is and what comes to be. A different, third Kind is now needed, namely a Kind that “receives” coming-to-be (the second Kind). Each Kind must have a set of properties that distinguishes it from the others. On the basis of these three metaphysical Kinds we can distinguish three kinds of things, that is, things that are members of these Kinds. For example Form-paradigms are things that are, bodies are things that come to be. The bodies under investigation are the elements. What “receives” the coming-to-be of such bodies is the new kind of thing (a member of the third metaphysical Kind) needed for the account of the generation of the elements; it may be called the “Receptacle.” [Note: the term “Receptacle” belongs to tradition; although Plato uses it for what “receives” elemental coming-to-be, he uses many other terms as well.] It follows that the account of the generation of the elements must state what the Receptacle is and what it does, its “power and nature” as Plato puts it (49a4–5). To do this it will be helpful to begin by investigating a puzzle about observable elemental change (48e2–49b2).

Let us assume it to be the case that individual elemental bodies at the microscopic level rapidly break down and reform into elemental bodies of a different kind. [Note: the argument here suffers from the fact that Plato has not yet introduced his account of the structure of the elements. Plato feels an account of the Receptacle must be in place before he can proceed to elemental structure.] Given such change and given that the elements are bodies at which we can, at least potentially, point and say “this thing,” a puzzle arises: what is the referent of “this”? “This” refers to something stable, so it cannot refer to the changing state of affairs which we witness. Granted that we correctly use “this,” it must refer to something else. The something else is the stable something that “receives” elemental coming-to-be or “in which” elemental coming-to-be occurs. To clarify the point one may imagine a lump of gold that an artisan constantly reshapes. In such a case the term “this” would refer to the gold, but not to a shape that consists of gold, e. g., a ball. The gold in the example is an analogue of the Receptacle (49b2–50b5).

But the example might wrongly suggest that the Receptacle somehow comes to be what it “receives” in as much as gold is one of the objects of the physical

world, a thing that comes to be. It must therefore be argued that the “receiving” function of the Receptacle does not entail that it, too, comes to be – which would make it just one more member of the second Kind. One may distinguish between “receiving” and “taking on.” For example a block of soft wax [this would be one case of a general kind of thing for which Plato’s word is “impress-holder” (*ἐκμαγεῖον*)] “receives” a shape impressed but does not “take on” this shape, which is to say, it does not come to be this sort of shaped thing. In this manner the Receptacle “receives” the shapes, or forms, of the elemental bodies [what these shapes (forms) are is yet to be discussed] but remains shape-neutral. This being the case, it remains a third kind of thing, namely, a “that in which” the elemental bodies come to be. The three kinds of things have a parallel in the relations between a father, a mother, and an offspring. The mother is a “that which receives,” where her “receiving” does not cause the mother to become an offspring (50b5–d4).

The distinction between “receiving” and “taking on” makes the argument that the Receptacle remains unchanged by what it “receives.” This must be the case if it is to remain a third kind of thing. But there is another reason as well. In order to perform its cosmic function it must be able to “receive” the elemental shapes equally well. It could not do this were it to assume or “take on” the shape (form) of one of them. Practical analogies illustrate this point. Unguent makers employ a base substance that has no odor of its own; people smooth out the surface of wax before they take an impression with it. The Receptacle, then, in order to be able to “receive” the generation of the elements in the required way, cannot be any of the elements (that is, have come to be an element by “taking on” its form), nor be anything that is composed of the elements, or even that out of which the elements are composed. It follows that the Receptacle is a kind of thing that has no physical form of its own, is invisible (only physical things are objects of sight), and “receives” the coming-to-be of all the elemental bodies equally. But if it has these characteristics, it is also very difficult to conceive of (50d4–51b2).

Returning to the claim that the Receptacle is the stable referent of “this,” we may say that an elemental body is a portion of the Receptacle that has “received” the qualities that we associate with this element. For example, an elemental fire body is a portion of the Receptacle that is enflamed, where in actual fact (to be explained later) the quality “enflamed” is to have a particular shape or form (i. e., pyramidal). This analysis of an element might suggest that, e. g., fire just is the physical entity that we experience and therefore there is no such thing as the Form-paradigm “fire itself,” something that is not a physical entity. This might suggest the materialist claim that only the objects of our potential or actual experience are beings. A reply to the materialist claim requires a digression. [Here the text (51b6–52d4) digresses. For clarity’s sake I shall place the summary of the digression after the completion of the argument about the Receptacle’s “nature and power”] (51b2–6).

The Receptacle also has another cosmic function. This function may be compared to that of a nurse that helps the rearing of a child. The four kinds of elemental bodies that come to be in the Receptacle possess four distinct sets of properties that, in the sense stated above, affect the Receptacle. The Receptacle is, as a result, in a state of non-uniformity. But non-uniformity is always accompanied by motion. Therefore the Receptacle shakes, its motion being caused (in some sense) by the diverse properties of the elements. The shaking of the Receptacle, in turn, assembles elemental bodies of the same kind into separate regions, somewhat as a winnowing fan separates the chaff and the grain into different places. The Receptacle's shaking is a cause of the observable fact that the elements are now generally located in distinct regions, but it was also a necessary stage in the production of the ordered world from a precosmic, disorderly state. Such a stage was necessary because compounds are formed by the combination of individual elemental bodies with others of the same kind, but for this to happen these bodies must be located in the same region. But before the intervention of mental causation, that is, in the pre-cosmos, physical causation produced only random bodies that were "elemental" only in the sense of being basic. Random bodies possessed very diverse properties, and this extreme non-uniformity caused the Receptacle to shake in a disorderly manner, which was a cause of even greater randomness. This state of affairs was rendered orderly by "shaping with form and number" (see 53b4–5). Plato has now completed his account of the Receptacle and turns (at 53c4) to his account of the construction and structure of the elemental bodies; he now explains how they are "shaped with form and number" (52d4–53c3).

The Digression against materialists, that is, against those who say the only sensibles are real. If it be granted that intelligence (or, intellect, mind) and true opinion are two distinct kinds of mental operations, it follows that their objects will also be distinct. The objects of intelligence are not sensibles. Therefore the materialist view is false. But some materialists hold that no distinction should be made between intelligence and true opinion (which is based on perception). This claim cannot be defended because intelligence and opinion are generated and operate in two different ways. The former is generated by instruction, the latter by persuasion. Intelligence is accompanied by a true account; opinion lacks an account. Intelligence is unaffected by persuasion; opinion is won over by it. Everyone possesses opinion but very few people possess intelligence. Therefore it cannot be the case that intelligence and true opinion are the same. It follows that there are intelligible entities as well as sensible ones. The previous distinction of three kinds of things claimed that there are intelligibles (which have a certain set of properties), sensibles (which have other properties), and a third kind of thing (which has still other properties). Place ($\chiώρα$) possesses the properties of this third kind. Materialists argue that if something is not in some place it is nothing. But intelligibles are not in a place, therefore they are not (are nothing). This

argument confuses, as though one were in a dream, facts about bodies with facts about intelligibles. Bodies must be in a place. Intelligibles are a different kind of entity; they need satisfy no such condition. Intelligibles do not go into anything, nor are they situated in anything. Furthermore, the fact that bodies must be in place is the basis for another argument against materialism. Materialists claim that only bodies, the objects of perception, are real. In fact, such things are scarcely real at all. What is real does not depend on something else for being what it is. A necessary condition of bodies is that they be in some place. But bodies belong to the second Kind (they are a second kind of thing) whereas place belongs to the third Kind (it is a third kind of thing). Therefore bodies (sensibles) are ontologically dependent on some other kind of thing: place. Further, a property of the second Kind is that it is an image of the first Kind. Therefore bodies, being the second kind of thing, are dependent in this sense as well. Therefore, since the real is not ontologically dependent, bodies (sensibles) are not real at all, or at best merely cling to being (51b6–52d4).

This completes the argument of the passage 47e3–53c3. Unfortunately Plato does not state his argument in such a straightforward manner or in language that is not subject to multiple interpretation. I shall not argue here for my interpretation of the argument. I do this in Chapter Three, also in Chapters Four and Five. Granting that I am right, that this is Plato's argument, how does the argument solve the puzzle over the Receptacle mentioned at the beginning? It does so by revealing that Plato is not claiming that there is one entity that is somehow metaphysical, remains a stable referent during constant elemental change, and is place in which bodies come to be and move. Plato argues that a metaphysical distinction must first be made: apart from a first and a second Kind there is also a third Kind. On the basis of this metaphysical distinction Plato argues that there is an entity that is a third kind of thing (a member of this Kind). This entity is fundamental to the physical world; it "receives" the coming-to-be of the elemental bodies. This is the "Receptacle." In the Digression against the materialist view Plato argues that there is also another third kind of thing, place ($\chiώρα$), that "receives" (in a different sense than that applicable to the Receptacle) bodies as they move and in which bodies must be (come to be). Although the concepts of a third Kind, the Receptacle, and place are not easy to grasp, as Plato emphasizes repeatedly, there is nothing unintelligible here, nothing that should cause us to charge that Plato was hopelessly confused in his thinking.

Establishing the course of Plato's argument in this passage is not a simple matter. There is much obscurity here, and much obscurity breeds diversity of interpretations, which in turn produces yet more obscurity. This book attempts to produce some clarity by proceeding in the following manner. Chapter One examines the previous interpretations of the Receptacle (I use the term here as it is commonly used; in my interpretation I restrict it to refer only to what "receives" elemental coming-to-be). Previous interpretations fall into four broad categories

which can, conveniently, be fixed by Aristotle's comments on the passage: the Receptacle has been interpreted to be matter, space, both, or neither. I argue that although all of these possibilities fail, they yield some claims that a successful interpretation must embrace.

In Chapter Two I discuss the metaphysical distinction of a third Kind. I argue first that the term "genos" means "kind." At 27d5–28a4 Plato distinguishes two Kinds, the Kind that contains as members things that "always are" and the Kind that contains things that "are always coming to be." When he introduces a third Kind at 49a1ff, this Kind also contains certain things as members. The first two Kinds, however, those of what is and what comes to be, already account for all things. I argue, therefore, that the third Kind is distinguished by a new analysis of the second Kind. I then discuss the metaphysical attributes of the new third Kind and its metaphysical relations to the other two Kinds.

Chapter Three is largely exegetical. I think that no clarity about the passage can be achieved until it has been examined as a whole, its argument discerned, and its multiple difficulties resolved. I attempt to do this. As I proceed through the text I respond to alternative interpretations.

Once Plato begins his account of the construction and structure of the elements he no longer mentions the Receptacle. Still, the account of the Receptacle is a preliminary for Plato's account of the elements. It should therefore be possible to achieve a more complete understanding of the Receptacle by investigating its role in Plato's full account of elemental generation. Plato famously argues that the elements are shaped like regular geometrical solids and are composed of "triangles." Zeller recognized long ago that the answer to the question, What is the Receptacle? lies in the interpretation of the "triangles." What Plato means by "triangles," however, is by no means clear. From Aristotle onwards this has been debated. But without an answer to this question we cannot claim to understand Plato's conception of the Receptacle. In Chapter Four I discuss Plato's elemental theory, the "triangles," and argue at length for an interpretation that exonerates Plato from the charge that he constructed the physical world out of two-dimensional entities or out of solids consisting of nothing. Finally, I attempt to explain what Plato conceives the relation of the "triangles" and the Receptacle to be.

It is commonly thought, as I mentioned above, that Plato discusses a single entity in the passage. Some hold this entity to be matter, others space. I claim that Plato argues for two distinct entities which both belong to the third Kind. In Chapter Five I examine what Plato says about the Receptacle and about place with the intent of showing in a more conclusive fashion that Plato argues for two cosmic entities, not one. If, as I claim, Plato does not confuse the notions of matter and place, Aristotle is wrong to claim that "in the *Timaeus* Plato says that matter and place are the same" (*Phys. Δ* 2. 209b11–12) and that, therefore, Plato commits a conceptual blunder by confusing different senses of to be "in."

Let us say that the interpretation sketched above is right. Plato has made a metaphysical distinction and then fashioned an account of a material base for the ultimate constituents of body and also an account, however rough, of place. Why should this concern us?¹ We might ask with Einstein (1961, 142), "Why is it necessary to drag down from the Olympian fields of Plato the fundamental ideas of thought in natural science and to attempt to reveal their earthly lineage?" Einstein's question is about the use of the history of science. It asks why we should bother with what Plato said such a long time ago seeing that, at least with respect to natural science, we now know so much more. Einstein's answer to his question is: "In order to free these ideas from the taboo² attached to them, and thus to achieve greater freedom in the formation of ideas and concepts." My answer to the question why Plato's account of the Receptacle, place, and the third Kind should concern us parallels, in a way, Einstein's point about achieving greater freedom in the formation of concepts. Even though we may say that neither Plato's metaphysics nor his physics have much bearing on present-day metaphysics and physics, the way in which Plato attempts to solve the problem before him does have bearing both on philosophy and science.

Plato confronts two perplexing, fundamental features of the physical world as he sees it: (i) every physical thing in particular and the world as a whole undergoes change and yet there is something imperceptible and basic about physical things that seems to remain unchanged (if one were to call this "materiality" one would already be incorporating part of Plato's solution to the problem); (ii) we recognize that bodies are always somewhere, in something we call "place," therefore place must be something, but what is it? How shall he account for these features? Plato proceeds towards an account in a way that is paradigmatic for both philosophers and scientists. He recognizes that none of the concepts he has at hand are adequate. He therefore must discover new concepts on the basis of which he can move forward. How shall he discover these concepts? By stepping back from old claims and assumptions and thinking about matters in a new way. To do this requires intellectual boldness, and boldness is often associated with youth. I suspect that Plato ironically alludes to this "youthfulness" of philosophy and scientific thinking early in the *Timaeus* when he has Critias report Solon's account of his encounter with the priests of Egypt. These priests said to Solon: "Solon, Solon, you Greeks are always youths; there is no old man who is a Greek." To Solon's request for an explanation they replied: "You are all young in soul, for in your souls there is found no old view received through ancient word of mouth nor any teaching that is hoary with age" (22b4–8). This was meant

1 On the general question about why philosophers, or philosophically minded individuals, might wish to concern themselves with the theories of their ancient predecessors see the incisive comments in Striker 1996, ix–xiii.

2 I take it that by "taboo" misconceptions are meant.

as a criticism, but philosophy and science thrived in Greece precisely because Greek thinkers (unlike the Egyptian priests) placed the claims of their predecessors and their own claims under the pressure of counter argument. The Greeks continually ventured forward into new ways of thinking about things. So Plato, confronted by the features of the world mentioned above, says: "Earlier we distinguished two Kinds . . . thinking the two would suffice, but we did not distinguish a third. Now, however, it seems the argument compels us to attempt to explicate a difficult and obscure Kind" (48e3–49a4). I am arguing, then, that Plato's proposal of a third Kind, of which place and the Receptacle (the material base of the elements) are members, is an example of the bold thinking without which neither philosophy nor science can move forward. Such thinking would be an exercise of what Einstein might have called "freedom in the formation of concepts."

Nowadays we might criticize Plato for the assumption that a metaphysical distinction must serve as the basis of our understanding of physical principles. We might object to his account of the relation between the constituents of the elements and the Receptacle – although one may ask, how complete and certain is the account our particle physicists give us? And we might wish that Plato had discussed the concept of space (as we attempt to conceive it), not place. But to diminish the value of Plato's effort for these reasons would be to lose sight of the fact that (a) how one thinks through conceptual difficulties can be as significant as one's conclusions and (b) a theory later shown to be implausible or wrong can still be the source of great conceptual progress. One might argue that since, in fact, we are still very far from understanding the cosmos in which we find ourselves, we cannot judge the significance of theories by how true they are, as we are not in a position to make such a judgment, but only by how great their impact has been on the theories that succeeded them. But if this be the criterion of significance, we shall find few theories more significant than Plato's.

I wish to end this introduction with a citation from an entry made recently by the physicist John Wheeler in a notebook under 29 January 2002: "No space, no time, no gravity, no electromagnetism, no particles. Nothing. We are back where Plato, Aristotle, and Parmenides struggled with the great questions: How come the universe, How come us, How come anything?" (*The New York Times*, Science Section, 12 March 2002). The challenge to us is the same as it was to Plato and his fellow philosophers and the way to proceed is unchanged: to recognize that we fail to make complete sense of things and to step beyond the confines of our conceptions to seek answers to what puzzles us.

Chapter I

Incertam et caligantem animi nostri intentionem, cum
silvae naturam consideramus, vanis somniis (Plato)
comparat et opinioni, quae ex sensibus nascitur.
(Chalcidius, § 248 [371])

The interpretation of Plato's Receptacle: Is it matter or space or both or neither?

Aristotle framed much of the long discussion over the interpretation of Plato's Receptacle by the following statement: "For this reason Plato also says in the *Timaeus* that matter (*ὕλην*) and space (*χώραν*) are the same, for (he says that) the *μεταληπτικόν*¹ and space are one and the same" (*Phys.* Δ 2. 209b11–13).² Aristotle goes on to say that Plato speaks of the *μεταληπτικόν* in another way³ in the "Unwritten Doctrines," although he says (consistently) that space and place (*τόπος*) are the same thing (209b13–16). Aristotle makes this statement in the context of his discussion of the puzzles associated with the concept of place. As an example of how place can be confused with matter he cites Plato. Place and matter can be confused, Aristotle says, because both are (in some sense) what underlies and receives change, the former of locomotion, the latter of alteration.⁴ But, Aristotle argues, there are quite different senses of "to be in" (*Phys.* Δ 3. 210a14–24); a body is not "in" a place in the same way as white is "in" a subject. Place and matter are quite different things, chiefly in that place "contains" (*περιέχει*) a thing and is "separable" (*χωριστός*) from it, whereas matter is contained by something else and is not separable (Δ 4. 211b36–212a2). Place, then,

1 Lit., "that which is capable of receiving"; the reference is to the Receptacle that receives forms. The term can also be translated as "the participant."

2 See below, under III.I, for further discussion of this passage.

3 I.e. "the Great and the Small." See *Phys.* Δ 2. 209b35–210a1, *Met.* A 6. 988a26.

4 Perhaps Aristotle's clearest statement of this is the following: "Matter might seem to be place if one should consider (change) in something that is motionless and not separated but continuous. For just as when there is alteration, there is something which is now white that was formerly black . . . (on which account we say that matter is something), so too place seems to exist on account of a similar phenomenon, except that (matter seems to exist) because *that which* was air is now water, whereas place (seems to exist) because *where* air was water now is" (*Phys.* Δ 4. 211b29–36)

is a separable τὸ ἐν φῷ (“that in which”) for things, whereas matter, as an inseparable constituent of things that come to be as being the subject for their qualities, is a τὸ ἐξ οὐ (“that out of which”). Plato, nevertheless – or so we are to believe – asserts in the *Timaeus* that these two are the same.

Plato does in fact use the term χώρα (place, room, space: 52a8, d3) in his discussion of the Receptacle in the *Timaeus*, although there is considerable disagreement about what he intends to indicate by it. On the other hand Plato does not use the term “matter” in the *Timaeus* and Aristotle would need to demonstrate that Plato employed a concept in the *Timaeus* that corresponds to what he means by matter. Still, Aristotle points to a fundamental problem in Plato’s discussion of the Receptacle. Plato seems to say that it is both a material constituent of the physical world and a “that in which” the physical world comes to be, that it is both inseparable and separable. As Aristotle states in GC B 1, 329a14–16: “What is written in the *Timaeus* makes no clear determination, for *(Plato)* did not say plainly whether the ‘receiver of all’ (πανδεχές: 51a7) is separated from the elements, nor does he make any use *(of it)* once he says that there is some sort of subject prior to the so-called elements.”

Aristotle’s formulation of the difficulties raised by Plato’s account of the Receptacle serves to divide ancient and modern scholarship into four camps: (I) those who think that the Receptacle is matter (in some sense); (II) those who think that the Receptacle is space (in some sense) and therefore not matter; (III) those who think that the Receptacle is (in some sense) both; and (IV) those who think that it is neither. I shall now state briefly the positions and chief arguments of each camp.

I The Receptacle is matter

(1) The Receptacle simply is matter. This view was common in antiquity.⁵ Arguments were made for and against the adequacy of Plato’s account, but that Plato spoke of matter was not in question. Matter is treated diversely by different authors in antiquity. Nevertheless Aristotle’s account of matter was used by most writers as a basis for their ruminations about this subject.⁶ Stated briefly, Aristotle’s account makes the following claims:

(a) Matter is the subject (ὑποκείμενον) of qualitative change out of which (ἐξ οὐ) that which comes to be comes to be.⁷

5 Cf. Sorabji 1988, 33.

6 See Baeumker 1890 for a historical overview and examination of the concept of matter in antiquity.

7 See *Phys.* A 7, 190b3–4. One of Aristotle’s most concise definitions of matter is, “the primary substratum (or, subject, ὑποκείμενον) for each thing out of which (ἐξ οὐ) something comes to be – it [the substratum] inhering *(in what comes to be)* not accidentally” (*Phys.* A 9, 192a31–32)

(b) As such it should be conceived as devoid of all quality;⁸ it is "formless" (ἀειδές [sc. τὸ ὑποχείμενον]) and "shapeless" (ἄμορφον: *Cael.* Γ 8. 306b17).

(c) Together with form it composes a composite thing (τὸ σύνολον);⁹ all particular things are composites of matter and form.

(d) Matter is therefore "inseparable"; it is never found apart from that which is "out of" it.

(e) Matter is not a particular thing, a τι.¹⁰

(f) Matter is properly to be distinguished from privation (στέρησις).¹¹

(g) As that-out-of-which, matter is also potentiality¹² that is actualized by the presence of form.

(h) Matter is "possible" (παθητικόν: *GC A* 7. 324b18j).

(i) Matter cannot be perceived (ἀναισθητός: *GC B* 5. 332a35j) and "is in itself unknowable" (*Met.* Z 10. 1036a8). It can, however, be known in a way "by analogy" (*Phys.* A 7. 191a8). A notion of matter can be derived by (i) reasoning that something devoid of quality must underlie the opposites involved in qualitative change,¹³ or (ii) by conceptually stripping away all qualities or attributes of a thing under the assumption that the underlying substratum will be matter.¹⁴

It is important to note that Aristotle always uses the term with an implied or stated genitive following it: matter is always matter of something. Aristotle, therefore, never speaks of "matter as such."¹⁵ Because matter is always the matter of something, and the things relevant to the context of the physical world are physical substances, matter is to be conceived of as some sort of material subject.¹⁶

Most of Aristotle's claims about matter are evident in the ancient discussions of Plato's Receptacle. Many in fact, as will become evident below, are present in some form in the *Timaeus* account. If, however, the Receptacle is simply matter,

8 Matter is "that which in itself is not any (particular) thing, nor a quantity nor is characterized by anything else whereby being is determined" (*Met.* Z 3. 1029a20–21).

9 See *Met.* Z 11. 1037a25–33; *Phys.* A 7. 190b11.

10 See n. 8.

11 "We say that matter and privation are different. The former of these, matter, is not (something) accidentally, while the latter (is not [something]) *per se*, the former, matter, somehow nearly is substance, but the latter in no wise" (*Phys.* A 9. 192a3–6).

12 See, e. g., *Met.* Z 7. 1032a21–22.

13 Cf. *Phys.* A 7. 190a33–b1.

14 See *Met.* Z 3. 1029a16–21.

15 See the discussion in Wieland 1970, 209–11, esp.: "Aristoteles nicht die Existenz real unterscheidener und für sich vorfindbarer 'Arten' von Materie lehrt, sondern nur eine Reflexionsstruktur auf verschiedenartige Sachverhalte anwendet. 'Die' Materie gibt es nicht, sondern jeweils immer nur besummierte Materie. . . . Der Materie als solcher kommt keine Bestimmung zu, die etwas anderes zum Inhalt hat als die Tatsache, dass es sich um Materie von etwas handelt. Das macht eine konkrete Bestimmung dessen, was im einzelnen Fall Materie ist, nicht überflüssig" (211).

16 That is, as a "Reflexionsbegriff," as Wieland puts it (see n. 15).

some explanation why Plato seems to use the term χώρα to denote the Receptacle is required. It has been thought that Plato uses the term:

(α) Metaphorically. Some – probably Middle Platonists – apparently claimed that Plato used χώρα “metaphorically” (μεταφορικῶς); they may have argued that matter receives forms just as space (place) receives bodies, and therefore matter can be called space metaphorically.¹⁷ Alexander of Aphrodisias seems to have argued that this did not rescue Plato from Aristotle’s charge of ambiguity because “even if someone calls matter ‘place’ metaphorically, he who uses *⟨the term⟩* metaphorically must first have as established what place (τόπος) properly is” but Plato did not do this.¹⁸

Perhaps along the same line as the Middle Platonists Philoponus argues that Plato uses χώρα “by way of analogy” (χατὰ ἀναλογίαν): “It is obvious that Plato did *not* say that matter is this place (τόπον) here which receives composite bodies – which *⟨place⟩* is the subject of our discussion – but that he called matter a place of physical forms¹⁹ by way of analogy, since just as body is in a place, so all physical form is in matter” (*In Phys.* 516.5–8). This interpretation asserts that Plato did not call the Receptacle “place” in any proper sense.

(β) “Not quite metaphorically.” Simplicius recognizes the aptness of Alexander’s argument²⁰ and so rejoins by arguing that the term χώρα is not used “simply as a metaphor, but ‘that which receives’ (τὸ ὑποδεκτικόν) is taken as indicating something common to place (τόπον)” (*In Phys.* 540.28–29). The “not quite metaphorical” use of χώρα is based on the observation that both place and the “that which receives” (i. e., matter or Plato’s “receptacle”) receive what is in them; it goes further than the metaphorical interpretation by asserting that matter is in some sense properly called space or place. Simplicius argues:

If that which partakes of something and is delimited by it receives that of which it partakes, and that which both receives and contains (χωροῦν) it becomes the χώρα of that which has come to be in it, but χώρα is thought to be place (τόπος), whereas matter partakes of forms, then *⟨matter⟩* could be a place of forms, only not as *⟨a place⟩* of bodies, for the place of bodies is something else. (*In Phys.* 540.31–541.1)

Interpretation (β) claims that the Receptacle actually is a kind of place or space: it is a place of forms.

17 Reported by Simplicius, *In Phys.* 540.22–26.

18 Reported by Simplicius, *In Phys.* 540.22–26.

19 Philoponus wants to distinguish “physical forms” from “separated Forms.” Plato, he says, maintained that “separated Forms” are not “in a place” [cf. *Tim.* 52b3–5] (*In Phys.* 524.11–12)

20 “I recognize that Plato did not primarily inquire or express a view about the nature of the place of bodies” (*In Phys.* 541.13–15).

(γ) Literally and metaphorically. This interpretation simply ignores the difficulty raised by Aristotle. The Receptacle is both matter and place. As place it situates both physical bodies and forms.²¹

(δ) Literally but derivatively. Plutarch asserts that the Receptacle as matter (*τὸ πανδεχὲς καὶ ύλικόν*) "acquired magnitude, dimension, and *χώρα*" so that the world could come to be.²² Matter takes on space; it should be called "space" only in a derivative sense.

(ε) By confusion. Against the argument by Boeckh (see II.1 below) that Plato rejected the concept of matter, Bonitz argues that Plato calls matter "space" because he had not yet clearly distinguished between these notions.²³

(ζ) Plato has a non-Aristotelian notion of space. Tennemann argues that it is unlikely that Plato confused space and matter, as Aristotle claims, but rather "had some other conception of space."²⁴

(2) The Receptacle is a kind of material or "Stoff." This interpretation is adopted by the few recent supporters of the view that the Receptacle is matter. The Receptacle is "Stoff,"²⁵ "bildsame Stoff,"²⁶ "Urstoff,"²⁷ "schmiegsam Urstoff . . . als Substrat der Dinge,"²⁸ or "realer Stoff," "Grundstoff."²⁹ The concept of "material" proposed by these authors is a derivative of Aristotelian matter taken to be the material substrate of the physical world. It also reflects nineteenth-century scientific conceptions of the nature of matter.³⁰ "Stoff" is a material constituent of things devoid of qualities; as a material constituent or "Grundstoff" it is somehow physical.³¹ The "Stoff" interpretation was formed in reaction to the view,

21 Chalcidius, presenting a Neoplatonic interpretation, writes, "*(Plato) calls (the Receptacle) 'place' (locum) because it is a sort of space (regionem) which receives the images of incorporeal and intelligible forms*" (§ 344 [368]), but soon afterwards he says: "*(He calls it) 'place' because matter is the receptacle of bodies, qualities, and the rest of sensible things*" (§ 350 [374]).

22 *De animae proc.* 6. 1014c (149.17–18).

23 Bonitz 1837, 66 n. 8: "Neque vero mirandum est, quod Plato materiae inter et spatii notiones non accurate distinxit; quod si quis a materia omnem prorsus ullius qualitatis notionem removerit, spatium autem non solum cogitandi formam, sed rem vere existantem esse dixerit, id quod Plato aperte statuit, altera nota alteri admodum propinqua est et confinis."

24 Tennemann 1799, 401.

25 Teichmüller 1874, 329.

26 Ast 1835, 46.

27 Ueberweg 1854, 58.

28 Sartorius 1886, 137, 150.

29 Sachs 1917, 224

30 See, e.g., Jammer 1964, 90: "Die Naturphilosophie des 18. und 19. Jahrhunderts war beherrscht durch den substantiellen Begriff der Materie: materielle Objekte wurden in der Weise behandelt, dass man annahm, sie enthielten ein substantielles Substrat, das der ganzen physikalischen Realität zugrunde liegt."

31 Aristotle's matter, however, is inferred by some to be non-physical or incorporeal. Stoic matter, on the contrary, as "body devoid of quality" (*ἀποιούσιον σῶμα*), is clearly physical. See Chalcidius's nine arguments against the proposition that the Receptacle is some kind of body (§ 319 [342–44]).

first propounded by Boeckh and Zeller, that the Receptacle is pure or empty space (see II.1 below).

In this interpretation $\chiώρα$ is thought to be used metaphorically. Ast argues that the basic meaning of the Greek word is “that-which-holds-in-itself” and so the Receptacle is called $\chiώρα$ only in relation to the notion of “holding-in-self,” but not as “the form of the appearance of externals – as space.”³² Ueberweg argues that $\chiώρα$ refers to a “Prinzip der Räumlichkeit” that can properly apply to a material substance that receives shape.³³ These accounts understand Plato to be using $\chiώρα$ to refer to a metaphysical concept rather than to physical space.

The principal argument for (2) is that Plato explicitly refers to the Receptacle as a “this” ($\tauοῦτο$, $\tauόδε$ [50a1–2]), as possessing a kind of “nature” ($\phiύσιν$ [49a5]), as a thing that fulfills certain functions. While Aristotle’s $\ddot{\text{ο}}λη$ has none of these qualities, it is argued that Plato’s Receptacle must be “real substance” to possess them. (2) holds as a fundamental assumption that the physical world is, for Plato, an enduring, concrete entity, that the Living Being – the cosmos – is a *real* living being. This assumption entails, it is argued, that the substratum of physical reality be “real substance” and, therefore, cannot be pure or empty space, as claimed by the proponents of (II.1). Plato constructs the physical world out of four elements that are geometrically shaped three-dimensional bodies. The “Stoff” interpretation argues, against (II.1), that these “bodies,” as Plato calls them (53c4), must ultimately consist of shaped “material” if the world is to be in any sense real.³⁴ The Gold Analogy (50a5–b5; on this see below, ch.3) and 51b4–6 – where the elemental bodies are said to be fiery, watery, etc., “parts” of the Receptacle – are adduced as support for the claim that the Receptacle is, indeed, a formless something, a kind of substance.

II The Receptacle is space and therefore not matter

This interpretation is widely held. Stated broadly, there are three divergent accounts which assert (II).

(1) The Receptacle is empty or pure space.³⁵ Assuming a Form-matter opposition, Form is the cause or explanation of being and unity, and matter the cause of non-being, separation, and division. (1) claims that the Receptacle is a principle of “pure opposition to Form” which “contains the basis of non-being, divi-

³² Ast 1835, 52–53. Cf. Sartorius 1886, 157: “Darum nennt Plato die Materie τοπος oder $\chiώρα$, weil diese Wörter auch in dem Sinne gebraucht werden, dass nicht die äussere Umfassung, sondern die Ausbreitung innerhalb derselben, das Umfasste und Begrenzte, gemeint ist.”

³³ Ueberweg 1854, 61.

³⁴ “Stoff,” then, is a constituent of things. See Sachs 1917, 225.

³⁵ (1) was widely promoted and defended against (1.2) in nineteenth-century Germany.

sion, and alteration of appearances."³⁶ Zeller, one of the most prominent spokesmen for (1), writes:

Plato removes Aristotle's Form-matter dualism by saying that only Form is real while the material (das Stoffartige) is non-being. It receives ideal Form into itself. It is not a real substrate which lies at the base of the world, but a quite objective *Erscheinungsform* for the Forms. Plato reduces materiality to the concept of spatiality.³⁷

Following the lead of Boeckh, who claims that Plato consciously rejected the notion of a material substratum and replaced it with the a concept of immaterial space,³⁸ Zeller proposes that Platonic "matter," χώρα, is "empty space" (736) or "mere extension" (743). Empty space, as Aristotle, among others, also noticed (*Phys.* Δ 8. 215a11), has considerable affinity with privation and non-being.³⁹ The most conclusive proof of this interpretation is, in Zeller's view, the construction of the elemental bodies. Because Plato constructs these bodies out of plane surfaces (triangles), Plato views them as composed not of particles, i. e., something material, but "by means of the mathematical limitation of empty space" (736). This interpretation is developed into a kind of spatial atomism where "space is made discrete" (die Diskretion des Raumes).⁴⁰ The fact that the elemental bodies are mathematically determined portions of space accounts, ultimately, for the "distortion of the Form in appearances" (Verunstaltung der Idee in der Erscheinung).⁴¹

(1) interprets the Receptacle as the principle of the Platonic Other in the physical world. The Receptacle as space accounts for the inability of things to retain accurately and enduringly the images of the Forms that they bear. As "discrete space" in the elemental bodies it would seem to be some kind of a constituent of physical reality, an εξ οὐ; in so far as things have substantiality, they have it from

36 Zeller 1922, 721 (The first edition of *Die Philosophie der Griechen* was published in 1844–1852. I have been unable to consult this edition, but judging by the dates of the responses of the upholders of (1.2), Zeller's comments probably originate from the first edition).

37 Zeller 1839, 212. In his *Philosophie der Griechen* Zeller writes, furthermore, that Plato's "matter" is the "negation of the reality established in the Forms, the non-being of the Forms" (741), but it is also "das Gegenständliche to which the images of the Forms which [i. e., images] reflect themselves in appearance must cling in order to have something to hold on to and partake of being" (743). Zeller recognizes that it is difficult to reconcile these facts.

38 Boeckh 1866 (= 1807, see the Bibliography), 129.

39 Cf. Susemihl 1860, 410: "Is anything better suited for the *Versinnlichung* of absolute non-being than empty space?"

40 Siebeck 1888, 84. The notion of particles of space or "Raumteile" has been proposed more recently by Scheffel 1976. He reduces the "matter or space?" question to whether the elements are "Raumteile" or "aggregations of particles in space." He concludes that "Die Partikel in Raum . . . sind selbst Raum-Größen, bestimmte nach festen Zahlen und Massen strukturierte Teile der Chora, welche sich ihrerseits in dem umgebenden Ganzen der nicht-gestalteten Chora bewegen" (79).

41 Zeller 1922, 720.

the Forms in which they participate, since Form is the cause of being. But the Receptacle as space is clearly also an *ἐν ώ*, that in or on which the “images” of the Forms appear. This aspect of (1) is developed more fully in (2).

(2) The Receptacle is space in the sense of a “medium,”⁴² “field,”⁴³ or “mirror”⁴⁴ for the appearance of images of the Forms.⁴⁵ As space the Receptacle is “that in which” images (Plato’s *μιμήματα* [50c5]) of the Forms appear, that is, take their place the physical world. This interpretation does not embrace the principal claim of (1), namely that space is a kind of non-being in the world. (2) accepts, rather, that the Receptacle is an everlasting, essentially unchanging medium, space, which exists separately both from the Forms and their images.⁴⁶

It is to save the possibility of the sensible phenomena as such, the essential characteristic of which is instability and which, because they have no steadfast being of their own, must be imitations of the real ideas, that Plato assumes a receptacle, *χώρα*; this receptacle is the field required by phenomena because they are merely “likenesses.”⁴⁷

(2) is based on an interpretation of Plato’s metaphysics which might be called “a metaphysical physics of image.” This metaphysical physics assumes that Plato consistently argued for radical flux of phenomena; the things we perceive change continually in every respect and, therefore, no knowledge can be had of them.⁴⁸ In as much as sensible things are always changing in every respect, there are no “things” as such. This metaphysical physics also accepts a “bundle” theory of particulars according to which, as Lee puts it, “phenomena have the status of property-complexes, not of things.”⁴⁹ Because the sensibles are not properly

42 Cherniss 1965 (= 1957, see the Bibliography), 377.

43 Cherniss 1962 (= 1944, see the Bibliography), 175.

44 Cornford 1937, 194.

45 This interpretation is proposed most notably by Cornford (1937), Cherniss (1944, 1945, 1954, 1957 = 1965), Lee (1964, 1966, 1967, 1972), Maula 1970, and more recently by Mohr (1980, 1985), and (partially) by Algra (1994).

46 See Cherniss 1965, 377.

47 Cherniss 1944, 172–73. Cf. Cherniss 1945, 23: “Plato himself explains that his theory of space as the participant or receptacle is a consequence of his doctrine that physical particulars, being constantly in process, are *imitations* of reality, for as such they imply not only real entities – that is, the ideas, of which they are images – but also a field or medium *in* which they can, as images, appear and disappear.” Cf. Cornford 1937, 194: “The copy or image, not having the substantial existence of a perfectly real thing, but being ‘the ever-moving semblance of something else,’ requires some medium ‘in which’ it may appear and disappear, like a mirror image.” Cf. also Mohr 1980: “Rather space is a medium or field in which phenomena appear as (non-substantial) images” (148); “Space provides a field across which images may flicker, but it does not provide any continuity to the images as they change” (151).

48 See Cherniss 1965, 356–58.

49 1964, 119; cf. 1967, 27: “We are urged to view nature, not as a realm of subsisting, alterable *things*, but as a moving pattern of *recurring forms* (each invariant in nature).” Cf. Taylor 1928, 76 (in reference to the *Phd.*): “What we call a sensible thing is a complex of universal predicates or quali-

"things," we should refer to them only as "phenomena." These phenomena are always in a state of flux because the bundles of which they are the manifestations are continually gaining and losing properties. Plato calls the properties of which we become aware "images"; they are images of the Forms. The precise nature of these images is rather obscure. Cherniss, in his influential, if much criticized, interpretation of *Timaeus* 49c7–50b5, calls them "self-identical, recurring characteristics (or, characters)" of phenomena.⁵⁰ As images of the Forms they are mere "transitory adumbrations," and as having no proper being of their own, they must come to be *in* something that is real.⁵¹

Interpretation (2) argues that the "unreality of the phenomena makes such a medium" as the Receptacle "necessary."⁵² It is "necessary" because we clearly perceive the phenomena, despite their constant change, to be something, namely, bundles of "images" of various Forms. But these images cannot exist on their own, and there are no "things" on or in which they may be seated, as it were. Plato therefore introduces the Receptacle to provide a "medium" *in* which these images can appear. This medium is space. By "entrance into space the <images> have existence."⁵³ As an "image" enters into (or leaves) space, space undergoes an "apparent" alteration; that is, space – the only *real* object that we perceive – takes on a different appearance to us.⁵⁴ This different appearance of space is a phenomenon, or what we call a "thing." In this manner (2) disposes of the material principle for sensible objects; there is only "that in which," space.⁵⁵

The Receptacle as space is the "field" or "medium" on or in which the "images" of the Forms appear and from which they vanish. This notion of space brings with it a notion of location as well. (2) understands the "images" to be in space as bodies are in place, so making these images "particulars." Because (2) is based on a metaphysics of image, it often likens the Receptacle to a mir-

ties"; Cornford 1937, 181: "Plato is now asserting that 'fire' is properly only a name for a certain combination of qualities or 'powers,' which appear and disappear and are always varying . . . We are to get rid of the notion of material substance."

50 See 1954, 120–22, 128–30. I shall not repeat the many arguments against this new, fourth category of beings. See, e. g., Gulley 1960, 64.

51 Cherniss 1965, 376. "An image is always a transitory adumbration of something else; and consequently it must be coming to be *in* something other than itself and thus cling precariously to being or else itself be nothing at all." See also Cherniss's interpretation of *Tim.* 52c2–5 (1956).

52 Cherniss 1945, 23.

53 Cherniss 1954, 130

54 Cherniss 1965, 359, 1954, 129: "Transient phenomena are the *apparent* alterations of the receptacle induced by the continual entrance into it and exit from it of the <images> "

55 Cf. Cherniss 1945, 23; also 1962, 175. "In the sensibles, themselves, then, there is nothing to correspond to Aristotle's material substrate." Cf. Mohr 1985, 98. Also Ross 1951, 233: "In the *Timaeus*, the only one of his dialogues in which (Plato) seriously attempts an account of the sensible world, space is not the matter implicit in the being of sensible things, but only the medium in which they come into being."

ror.⁵⁶ The “images” are “projected” upon space.⁵⁷ The Receptacle as space is, then, whatever is necessary for the appearance of phenomena – “phenomena” understood in the sense delineated above.

(3) The Receptacle is space as being physical space or place-in-which. (3) interprets *Timaeus* 47e3–53c3 to be primarily a discussion of physics. In preparation for his account of the composition of the elemental bodies Plato introduces the Receptacle as “that in which” these bodies come into being – since everything that exists must “be in some place and occupy some χώρα” (52b4) – and in which they move, so allowing for coming-to-be and passing away. Since there is no properly empty space in Plato’s world (58a7, 60c1–2), space is always filled with body. But if body were abstracted, as being that which comes to be in space, space would be a kind of container having dimensions determined by the body it receives. (3) interprets the diverse analogies that Plato uses to describe the Receptacle as referring to space as either a potential or an actual container of body, since, it claims, Plato did not carefully distinguish between the two. (3) therefore, like Aristotle (*Phys. Δ* 2. 209b17), sees Plato as making a serious attempt to state the distinct roles that space – or place – plays in production and maintenance of the physical world. (3) denies that the Receptacle is a subject of metaphysical inquiry. I am unaware of any published upholders of (3), although it seems to be a plausible view.

III The Receptacle is, in some sense, both matter and space

(1) The Receptacle is extension; as such it can seem to be both matter and space. This interpretation originates with Aristotle. Just before making the claim that “Plato says in the *Timaeus* that matter and space are the same” Aristotle writes:

But in so far as place (τόπος) seems to be the extension (διάστημα) of the magnitude, *(it is)* the matter. For the *(extension)* is different from the magnitude: it is that which is contained and defined by the form, as by a plane surface, that is, a limit. But matter, that is, that which is undefined (τὸ ἀόριστον), is such *(a thing)*, for when the limit and the properties of a sphere are taken away, nothing remains except the matter. For this reason Plato also says in the *Timaeus* that matter and space are the same, for *(he says that)* that which receives and space are one and the same. (*Phys. Δ* 2. 209b6–13)

56 E.g. Keyt 1961, 298: “The mirror metaphor is one that best captures Plato’s thought on this subject. A mirror provides a medium in which images appear and through which they pass.” For the ineptitude of this simile see Kung 1988, also Zeyl 1975, 135.

57 Cf. Mohr 1985, 94: “If Plato had lived in our century, he might very well have chosen, not gold, but a movie screen or television screen as his analogue to a field across which ceaselessly changing non-substantial images may flicker.”

Here Aristotle seems to charge that Plato confused matter and space in his account of the Receptacle. Place might be taken as the “extension of magnitude” if place is viewed not as a limit of the container, as Aristotle himself thinks (cf. 209b1–6), but as what falls within the limits of the container. Aristotle distinguishes between magnitude and what is of a certain magnitude, as he puts it, “the magnitude and the matter of the magnitude” (b4). He calls the “matter of the magnitude” διάστημα. By διάστημα Aristotle has in mind what is enclosed or defined by given limits, while the entire entity consisting of what is enclosed and its enclosing limits is called the “magnitude.” διάστημα, unlike place but like matter, is inseparable from its limits although it can be conceptually distinguished from its limits. διάστημα is usually translated as “extension.” “Extension,” however, commonly refers to something that can exist independently, or separately, from limit; limits are placed on extension but “bare extension” is also conceivable. If “extension” implies this, it does not accurately translate διάστημα as used here; perhaps “interval” would be better.⁵⁸ Now Aristotle claims that διάστημα resembles matter in that it is defined by limits just as matter is defined by properties, and further, both matter and διάστημα can be conceptually but not actually distinguished from what defines them; this can be seen, he says, in the case of a sphere. But, wrongly, διάστημα can also be thought to be place, namely, the place of the magnitude of which it is the “extent.” To do this would be to confuse what is separable (place) from what is inseparable (extent, interval), and this is what one does if one confuses matter with space or room (χώρα)⁵⁹. Plato, Aristotle says, provides an example of such a confusion when he called the Receptacle, which should be matter, “space” (χώρα). Aristotle’s criticism of Plato seems to be that Plato speaks of the Receptacle as though it were both inseparable, in as much as it is matter, and separable, as being the kind of thing that space or room is; this is the kind of mistake that is sometimes made about διάστημα. There is, indeed, some justification for Aristotle’s criticism.

Aristotle does not claim that Plato conceived of the Receptacle as διάστημα, and διάστημα does not mean “extension” as the latter term is commonly understood. Even so, his language is such that Aristotle can be interpreted to claim that Plato conceived of the Receptacle as extension,⁶⁰ and later interpreters of Aristotle and Plato developed precisely this interpretation. Both Simplicius and Philoponus argued that matter is extension, that is, three-dimensional extensional-

58 On this see, most recently, Lang 1998, 87–89.

59 I translate χώρα as “space” or “room” and τόπος as “place” only to mark the use of different terms. It may be – and in ch. 3 I shall argue that this is in fact the case – that Aristotle does not intend here to make a distinction by employing two terms, that is, he thinks Plato uses χώρα in the *Tim* as a synonym of τόπος.

60 See, e. g., de Haas 1997, 59: “. . . [Aristotle] must be ascribing to Plato the view that the extension of body is matter and its limits or boundaries form. Then Plato’s identification of matter and place as extension would plainly derive from Plato’s view of matter”

ity,⁶¹ and understood Plato to be speaking about matter. The Receptacle is, therefore, extension. This is interpretation (1). Versions of (1) are held both by those who think the Receptacle is matter and those who think that it is empty space. Among the latter Baeumker interprets the Receptacle to be “*blosse Ausdehnung*.⁶² The Neopythagorean Moderatus of Gades had, we are told, a somewhat different version of (1). Moderatus interprets the Receptacle as “quantity (*ποσότης*)” abstracted from all unifying form. Moderatus’s conception of “quantity,” says Porphyry,⁶³ was not “that of a form but that which *(exists)* according to privation, loosening, extension (*εκτασις*), dispersion, and through change away from being” (231.19–20). “Quantity” is a principle of indefinite extension and disunion which, although it is “formless, indivisible, and shapeless receives form, shape, division, quality, and all suchlike” (231.10–12). Furthermore, this “quantity” is the “paradigm of the matter of bodies” (231.17–18).⁶⁴ According to Moderatus, then, Plato’s Receptacle as “quantity” is not the matter of physical bodies but the “paradigm” of such matter.

Many modern upholders of (1) adopt a Cartesian notion of extension.⁶⁵ Descartes, as is well known, argued that space and matter are merely different ways of conceiving of extension:

Non etiam in re differunt spatium, sive locus internus, et substantia corporea in eo contenta, sed tantum in modo, quo a nobis concipi solent. Revera enim extensio in longum, latum et profundum, quae spatium constituit, eadem plane est cum illa quae constituit corpus. (*Principia Philosophiae* 2.11 [AT 8.45.17–22])

Once this conception of extension is adopted, (1) easily entails that the Receptacle is both matter and space.⁶⁶

(2) Plato’s elemental theory renders moot the question whether the Receptacle is matter or space; it can therefore be thought of as both. (2) is proposed by Schultz 1966 who interprets Plato’s reduction of the elements to regular solids composed of triangles (on which see below, ch. 4) as a direct response to Democritean atomism. His argument is, briefly, that Plato resolves what he perceives to be an important inconsistency in atomist theory. The Atomists reduce the causes of all qualities to the shape, movement, and order of the atoms⁶⁷ and yet these three factors cannot explain the impervious nature of atoms: there is a fundamen-

61 See Sorabji 1988, 3–39, de Haas 1997.

62 Baeumker 1890, 184

63 Porphyry’s report on Moderatus is given by Simplicius in *In Phys.* 231.6–24. See also Dillon 1977, 348–49.

64 Reading παράδειγμα for παραδείγματα with the Ms F.

65 Cf. Robin 1957, 75: “Concluons: la *χώρα* platonicienne est une anticipation de l’étendue cartésienne.”

66 For further discussion of Descartes’ notion of extension see ch. 5, pp. 209–11.

67 Cf. Aristotle, *Met.* A 4. 985b13–20.

tal distinction between what is inside an atom and its outer surface. Plato, says Shultz, avoids this inconsistency by making shape alone the cause of all physical qualities, including those of the elemental bodies themselves. In this manner he makes causally irrelevant both the difference between "inner" and "outer" and, consequently, the question as well as to whether material or space lie inside his bodies.⁶⁸

IV The Receptacle is neither matter nor space

(1) The Aristotelian terms "matter" and "space" or "place" cannot be accurately applied to Plato's Receptacle. From the foregoing it should be evident that most commentators question the aptness of the Aristotelian use of these terms and modify them to some degree. The most thorough advocate of (1) is Bassfreund 1885. Bassfreund argues that $\chiώρα$ is neither empty space (15–27) nor the "material (Stoff)" out of which becoming comes to be (27–34). Further he argues that for Plato that which comes to be is not a $\sigmaύνολον$ of matter and form, as it is for Aristotle, but is regarded only from its formal aspect (40–42). He defines the "formal side" of a thing that comes to be as "the sum of all the physical properties (Bestimmtheiten) . . . which, having come together, cause a thing to appear: that which is purely sensible and what alone is the subject of our perception" (41). We only perceive a thing's physical properties; what remains when these are abstracted from a thing is the imperceptible "bearer and proper subject ($\bar{\nu}$ ποκείμενον) in which these physical properties inhere." This subject, Bassfreund continues, does not "belong to the realm of things that are becoming but rather makes up a 'kind' of existent thing which Plato calls the $\bar{\nu}$ ποδοχή τῆς γενέσεως (receptacle of becoming)" (52). Plato's $\bar{\nu}$ ποκείμενον is not to be confused with Aristotle's matter. It is the "principle of spatiality"; it is not "immanent material" but "the external spatial condition for the possibility that things come to be" (45–46). In this interpretation the Receptacle is neither matter nor space as Aristotle would understand the terms, but is the bare subject for that which appears, that is, that which comes to be. Bassfreund attempts to shift his inter-

68 See Schultz 1966, 124–26. I quote his concluding argument in full: "Da die Platonischen 'Elementarkörper' aus Flächenstücken zusammengesetzt werden, sind sie selbst in strengem Sinne keine Körper, aber sie verhalten sich . . . genauso wie Körper. Als geschlossene Flächen bestimmen sie aber einen Innerraum, und es ist lediglich ein begrifflicher, kein sachlicher Unterschied, ob man nun diesen Innerraum zu den Elementarkörpern hinzurechnen will oder nicht. Rechnet man ihn hinzu, dann ist das Ganze ein Körper. Betrachtet man dagegen nur die Zusammenfügung der Dreiecke, dann ist es eine geschlossene Fläche. Da es sich nur um Raum handelt, also nicht um eine vom Raum verschiedene Materie, sind beide Auffassungen möglich; sie wären nur verschiedene Betrachtungsweisen derselben physikalischen Realität" (126).

interpretation of the Receptacle away from the concepts of Aristotle's physics to ones he thinks are more likely Platonic.

(2) Plato discusses a single quasi-entity in 47e3–53c3 to which he applies terms, such as "receptacle," χώρα, "impress-holder," and "mother," that do not and cannot convey what this quasi-entity is. On the basis of Plato's distinction of a third kind that is neither what is nor what comes to be, (2) holds that a different sort of discourse is needed to treat this quasi-entity (call it "khora"). Accordingly Derrida 1998 writes:

But if Timaeus names it as receptacle (*dekhomenon*) or place (*khora*), these names do not designate an essence, the stable being of an *eidos*, since *khora* is neither of the order of the *eidos* nor of the order of mimemes, that is, of images of the *eidos* which come to imprint themselves in it – which thus *is not* and do not belong to the two known or recognized genera of being. It is not, and this nonbeing cannot be *declared*, that is, be caught or conceived, via the anthropomorphic schema of the verb *to receive* and the verb *to give*. *Khora* is not, is above all not, is anything but a support or a subject which would *give* place by receiving or by conceiving, or indeed by letting itself be conceived. (236)⁶⁹

(2), then, interprets "khora" to be a radically different non-something that is beyond the reach of philosophic discourse and conception; the very name χώρα serves as a kind of tetragrammaton for what is, the holders of (2) declare with enthusiasm, "beyond being."⁷⁰ Why something thus "beyond being" is necessary to cosmology is left obscure, but (2), it seems, would say that this is as it should be: "khora" just is obscure.

Discussion

The foregoing summary of diverse interpretations of Plato's Receptacle shows that this long controversy has been largely waged on a field marked out by Aristotle. Both (I.1), that the Receptacle is simply matter, and (I.2), that the Receptacle is a kind of material, appeal to the commonsense assumption that Plato must have thought that the things of our world are physical entities and, as such, must have some sort of inseparable material component. This assumption could well be justified, but Plato's description of the Receptacle would seem to make it an unlikely candidate for this role. As the adherents of (II) point out, Plato refers to the Receptacle as τὸ ἐν ϕ and χώρα, never as τὸ ἐξ οὐ.⁷¹ Perhaps Plato's use

69 Cf. Sallis 1999, 111.

70 Sallis 1999, 113: "If it can be called a being at all, it can only be in a sense of being that exceeds being, in a sense of being that is beyond being."

71 Plato was quite aware of the constitutive use of the preposition *ἐκ*. See, e.g., 32d1–33a1, 34b2.

of τὸ ἐν ψῷ and χώρα can be interpreted in such a way as to favor (I), but (I) must face another obstacle as well: Plato calls this entity a “*genos*,” that is, a kind or genus, which is a metaphysical entity, not a physical thing. This point is made by (IV).

(II.1), that the Receptacle is pure space, like (I), assumes that Plato's intention is to give an account of matter, that is, a “that out of which.” This interpretation is subject to the same objections as (I). Moreover, this claim is quite counter-intuitive: it asserts that Plato thought that the elemental bodies are regularly delimited bits of empty space. The ontology adduced to make this view more credible is itself suspect, as there is no evidence that Plato equated “the material” to non-being in the sense of “empty.”

(II.2), that the Receptacle is space in the sense of a medium for phenomena, takes seriously Plato's indications that the Receptacle is χώρα and τὸ ἐν ψῷ. The fundamental premise of (II.2) is that the things we see in the world, the phenomena, are in radical flux and, as such, are not substantial “things” at all. Though this flux ontology has often been attributed to Plato, it is by no means certain that he embraced it in any sense. Rather Plato's discussions of flux in the *Theaetetus* and the *Cratylus* are now generally understood to be criticisms of the Heraclitean flux theory.⁷² (II.2) also appeals to the “bundle” theory of particulars, which appears to many who adopt (II.2) to be an easy companion of the flux theory.⁷³ There is, however, even less textual support for the bundle theory than there is for the flux theory.⁷⁴ On the contrary, Plato gives no signal of discomfort with the notion that properties or qualities (e. g., shortness) require an abiding subject (e. g., Socrates) in which they can inhere.⁷⁵ Those, the majority, who follow Cherniss's version of (II.2) also accept the existence of “self-identical characteristics” for whose existence there is no evidence whatsoever. Finally (II.2) claims that the Receptacle is a “medium” but does not offer any explanation on how this

He uses ἐξ in the “Gold analogy” (50a6), but its meaning there is debated (on which, see below, ch. 3). Guthrie 1978, 265 n. 3, claims that Plato “uses indifferently the two expressions (sc. ἐξ οὐ, ἐν ψῷ) in connection with raw material.” Against this unlikely claim see Algra 1994, 90.

72 See esp. Irwin 1977a, 148–53; 1977b; Fine 1993, 54–57.

73 The classical version of the bundle theory, as advocated by Hume (see *A Treatise of Human Nature* 1.4.3), asserts that there simply is no “underlying something” in which properties inhere and therefore a full account of a thing's properties would be a full account of what a thing is. The bundle theory, then, does not assert that things are nothing but change; this is, however, the claim of the radical flux theory.

74 See, e.g., McCabe 1994, 133–61 and *passim*.

75 See, e.g., *Phd.* 102e3–6 “I, having received and submitted to (δεξαμένος καὶ ύπομεινας) smallness, and still being precisely who I am, this very same (individual) (οὗτος ὁ αὐτός), am short.” See further *Phd.* 103b2–8 where Plato distinguishes between things which have properties and properties themselves and *Smp.* 207d4–e5 where Diotima argues that a living being remains the same as itself throughout all the qualitative changes it undergoes during its lifetime. For a recent discussion of the notion of subject in Plato see Scaltsas 1994, 36–44.

"medium" does the work the theory asks it to do. Beyond, then, the recognition that the Receptacle is in fact an *εν φ*, (II.2) has little to recommend it.

(II.3), that the Receptacle is physical space, makes the attractive claim that Plato really was attempting to give an account of the physical world when he proposed the Receptacle. It fails, however, to account for the fact that, being a "genos (kind)" alongside "that which is" and "that which comes to be," the Receptacle should belong in some respect to the realm of metaphysics.⁷⁶ Furthermore, the Receptacle is said to move and shake (*Tim.* 53a3), to become fiery and watery (51b4–5), and much else that is not applicable to physical space.

(III.1) ascribes to Plato the notion of extension although he does not employ the term. Since, however, it is not apparent what notion of extension Plato might have held, Cartesian, Simplician, or some other, one could accept (III.1) only once it has been demonstrated what the Receptacle is and that what it is corresponds to a defined notion of extension. If (III.1) were taken merely as a suggestion that the Receptacle might be regarded as a theoretical precursor of the claim that matter and space are pure extension, it might be acceptable, but such a claim would make no pretension to explain how Plato conceived of the Receptacle.

(III.2), that Plato's elemental theory makes the "matter or space" question moot, raises the important point – as first argued by Zeller – that any interpretation of the Receptacle must include an account of its relation to Plato's elemental theory. (III.2), however, assumes that this latter is a direct response to the fundamental concepts of Democritean Atomism.⁷⁷ It is possible that Plato was somewhat familiar with atomist theory,⁷⁸ but there is no evidence of the kind of acquaintance with Atomism that would be required by Schultz's theory.⁷⁹

(IV.1), that the Receptacle is neither space nor matter, moves the discussion of the Receptacle away from conceptions of Aristotelian physics towards the special concerns of Plato. Bassfreund makes the point that whatever the Receptacle might be, it is what it is in relation to what "comes to be" and to the Forms; Bassfreund suggests that the Receptacle is to be interpreted as the metaphysical notion of subject. Although *ὑποχειμενον* (subject, substrate) is not a Platonic term, Plato certainly knows and uses the concept of "subject,"⁸⁰ though in a

⁷⁶ Algra 1994 argues that "(Plato's) metaphysical statements about the receptacle do not allow us to read them as a coherent theory of space" (109–10) and that much of the obscurity of Plato's account of the Receptacle results precisely from his failure to distinguish between "physical and metaphysical space or place" (119).

⁷⁷ This thesis is also proposed by Hammer-Jensen 1910, Sachs 1917, Stenzel 1920, Wilpert 1950 and others. See, most recently, Nikolaou 1998.

⁷⁸ The Atomists seem to be likely candidates for those mentioned in *Lg.* who think that the world came to be by the "chance" (*τυχη*) encounters of various bodies exhibiting diverse qualities (889b1–c6).

⁷⁹ For more on Plato's "atomism" see the discussion of his elemental bodies in ch. 4, below.

⁸⁰ See above, n. 75.

manner appropriate to his own metaphysics. Bassfreund's suggestion is, indeed, helpful, but it fails to explain why the bulk of 47e3–53c3 requires that the Receptacle be that which underlies elemental change and why the introduction of the Receptacle is a preliminary for Plato's discussion of the structure of the elemental bodies.

(IV.2) focuses on what one might call the "otherness" of the quasi-entity that Plato introduces. The "khora" is so "other," however, that how it might serve any purpose in Plato's cosmological exposition is hard to grasp. (IV.2) attempts to explain this problem, if it is a problem for (IV.2), away by referring to interpretations such as (II.2) and then qualifying them with the reservation that any precise account remains only a kind of dream image of the reality of the "khora," which is accessible only through "impure philosophical discourse, threatened, bastard, hybrid" (Derrida 1998, 258). One might, then, consider (IV.2) to be a form of non-interpretation or non-account of what Plato says in 47e3–53c3. As such, (IV.2) may not belong in this enumeration of diverse interpretations. There is no evidence that Plato thought he was engaged in "impure philosophical discourse" when he discussed the Receptacle. On the contrary, he begins his account by saying that "Now a different, third kind must be explained ($\delta\eta\lambda\omega\tau\epsilon\sigma$)" (48e3–4). Plato allows that his subject is difficult and obscure, but his stated intention is to make it as intelligible as possible, not to wrap it in yet greater obscurity, as (IV.2) seeks to do.

Interpretations (I)–(IV) all contribute to the understanding of Plato's Receptacle. It is reasonable to make the commonsense assumption, as (I), that Plato thought that the physical world has some sort of material subject or substratum. If, however, Plato proposed the Receptacle as an account of it, this subject would seem to differ from Aristotle's matter, as recognized by (II), in that it is a "that in which" and therefore, it would seem, separable – at least in Aristotle's analysis. Plato does call the "that in which" $\chi\omega\rho\alpha$ (the precise meaning of the term must be established) and an adequate account of the Receptacle must explain this. But given that both (I) and (II) make some valid claims about the Receptacle and that these claims are in conflict, (III) suggests that a successful interpretation should be inclusive of these claims. Further, in as much as Plato introduces the Receptacle as part of his account of generation of the elemental bodies, any interpretation of the Receptacle must also include, as (III.2), an account of its role in this generation. Interpretation (IV.1) rightly notices that Plato discusses the Receptacle within the metaphysical context of being and coming-to-be; accordingly it treats the Receptacle as a metaphysical entity. Finally, (IV.2) underscores Plato's claim that the Receptacle or "khora," being neither what comes to be nor what is, is something that is radically different.

As helpful as these contributions are, they do not yield a coherent account of the Receptacle. According to the above, the Receptacle must be in some sense a metaphysical entity that is both a "that in which" and is the material subject that

somehow underlies the generation of the elemental bodies. This does not seem to be intelligible. If these points are to be incorporated into an account of the Receptacle, a new interpretation is needed, one, moreover, that is based on the entire text of *Timaeus* 47e3–53c3. In Chapter Two I shall lay the groundwork for this interpretation by discussing the metaphysical distinction to which Plato refers by the term “third kind.”

Chapter II

Ἐν μέν τι γένεσιν πάντων,
τὴν δὲ οὐσίαν ἔτερον ἐν . . .
πότερον οὖν τούτων ἔνεκα ποτέρου;
Phlb. 54a5,7

The Three Kinds

Plato's terminology and the sense of "kind"

In the preceding chapter I argued that to accommodate the helpful, but conflicting, insights provided by the diverse interpretations of the Receptacle a new, inclusive interpretation is needed. In this chapter I shall discuss various metaphysical claims Plato makes in his treatment of the Receptacle. These claims are made in the context of a preliminary distinction of a “third γένος” alongside the two εἶδη of being and coming-to-be. I shall begin by arguing that the terms εἶδος and γένος here mean “kind.”

Plato begins his discussion of the Receptacle with the following words: “Earlier we distinguished two εἶδη, but now a different third γένος must be explained” (48e3–4). What is a “γένος,” and does it differ from an εἶδος as the terms are used here? Plato uses the term εἶδος in many senses. One frequent use is that of “kind” or “class.”¹ For example: (a) “Do you wish that we posit two εἶδη of things which are, the one visible, the other invisible?” (*Phd.* 79a6–7); (b) “Are not activities one εἶδος of the things that are?” (*Cra.* 386e8); (c) “. . . and he set apart a third εἶδος of letters, the ones we now call mutes” (*Phlb.* 18c2–3); (d) “That quite diverse εἶδος that is produced for solid and liquid things and for things prepared with fire and for things not so prepared, <that εἶδος> we call by the single name ‘vessel’ . . .” (*Plt.* 287e8–10); (e) “. . . if he showed me these things I should be prepared never again to desire <to discover> another εἶδος of cause” (*Phd.* 98a1–2). These examples evidence somewhat different uses of the same term. In example (a) Plato divides all things into two groups, visible and invisible.

¹ See LSJ, s.v. εἶδος III. Also Ast 1835, s.v. εἶδος, Des Places 1970, s.v. εἶδος 4. Also, e.g., Ross 1951, 15–16 “. . . in the dialogues from the *Phaedo* onwards, with the exception of the *Parmenides*, the meaning of ‘class’ is the commonest meaning of εἶδος.”

The things, for instance, in the visible group, such as a pebble, a fly, and a drum, have no evident common property beyond their visibility (by “visible” Plato likely means “perceptible”), and visibility can be said of these things only relative to seers, which is to say that visibility is not an attribute that can define these things (that is, a differentia). These groups, in as much as they have no uniting factors beyond the single feature that the mind may ascribe to them, are loose. In (b) Plato asserts that among the “things that are,” however one understands the expression, there is a group of things we refer to under the word “activity.” Obviously the group is very large, encompassing things as diverse as thinking, sailing, and breathing, but the group seems to be somewhat more defined than the groups distinguished in (a). One could, it seems, determine attributes that all activities necessarily possess. The greater definition of this group is reflected in the fact that we have a word, “activity,” that refers to all the things within this group. In the *Republic* Plato mentions the practice of asserting that there is an *εἶδος* of things that corresponds to what human speech picks out with a single word: “For we customarily posit a single *εἶδος* for each of the many things to which we apply the same name (word)” (596a6–7). Examples (c) and (d), like (b), distinguish a determinate group of things that correspond to words in use. In example (e) there is no word in use that would correspond to the group of causes Socrates will look for. Even so, the group is clearly supposed to be a determinate group: the members of this group fulfil certain conditions, explain certain kinds of events. The word “class” generally connotes a less determinate group of things than “kind.” Following this usage *εἶδος* in (a) might best be translated by “class,” whereas *εἶδος* in (b)–(e) might best be translated by “kind.” It is evident, I think, that in none of these cases *εἶδος* should be translated by the more technical terms “species” or “Form.”

The term *γένος*, like *εἶδος*, is used by Plato in various senses. One of its uses seems to correspond closely with the use of *εἶδος* just mentioned.² This, along with Plato’s annoying tendency to use different words for the same concept, was noticed long ago. Diogenes Laertius comments, “Often (Plato) uses different words to indicate the same thing: he calls *ἰδέα* and *εἶδος* ‘genos’ and ‘paradigm’ and ‘principle’ and ‘cause’” (3.64). A few examples of how *γένος* is used in the way that *εἶδος* is used above are: (a) “We shall say that powers are a *γένος* of the things that are” (*Rep.* 477c1); (b) “In connection with statement (*λόγος*) being one *γένος* of the things that are” (*Sph.* 260a5); (c) “We shall say that knowledge of the *γένος* of the elements [or, letters] is much clearer” (*Tht.* 206b7–8); (d) “... in the way that the art of the retailer is distinguished from the art of those who sell their own wares, so the *γένος* of kings appears to be set apart from the *γένος* of heralds” (*Plt.* 260c7–d1); (e) “Both of the *γένη* of causes should be

² See Des Places 1970, s.v. *εἶδος* 4, *γένος* 3.4.

stated" (*Tim.* 46e3). In each of these examples γένος is used of a more or less determinate group of things to which a word or name corresponds, as in examples (b)–(d) of εἶδος. Again "kind" here best translates γένος. Plato does not seem to be using γένος with the technical sense of "genus" as distinct from species.

Given that Plato sometimes uses εἶδος and γένος with the same general meaning, it is not surprising to find him using both terms in the same context. For example:

We shall say that faculties are a kind of things that are (γένος τι τῶν ὄντων) . . . , I mean that sight and hearing are faculties – if you understand what kind (εἶδος) I mean . . . Do you say that knowledge is a faculty, or into what kind (γένος) do you put it? . . . And shall we bring opinion into <the kind> "faculty" or into another kind (εἶδος)? (*Rep.* 477c1–e1)

Here εἶδος and γένος are used interchangeably and no evident point is made by the interchange (cf. also *Phrd.* 263b8–c1, c5). In passages in the *Republic*, *Philebus*, and *Timaeus* where Plato enumerates different kinds of things εἶδος and γένος are again used with the same general meaning of "kind," but here he seems to wish to make a subtle point by calling the last of the enumerated kinds a γένος. In the *Republic*'s famous Sun Analogy Plato first distinguishes two εἴδη of things that have quite contrary attributes: visible things that "are seen but not grasped by the mind" and Forms (ἰδέας) that are "grasped by the mind but not seen" (507b9–10). He also distinguishes a "third γένος" (507c11–d1, e1), a third kind of thing, in the presence of which (507e1) and because of which (508b9–10: the word used is αἴτιος) sensible things (which belong to the first kind) are perceived and intelligible things (which belong to the second kind) are grasped by the mind (508b13–c2, e1–4). Two things are mentioned that belong to this third γένος: the sun and the Form of the Good. What these two very different entities have in common is that they are causes. The sun is the cause of the visibility of visible things, and the Form of the Good, we are told, is the cause of the intelligibility of intelligible things. In this passage the two εἴδη are conceived of as opposites: what is visible and what is not visible, or what is not intelligible and what is intelligible. The third γένος, on the other hand, is something quite different: it stands apart from their opposition (i. e., *qua* being a different kind: obviously the sun is visible, the Good intelligible) and is conceived of as having the relation of cause with respect to the other two εἴδη. In the *Philebus* Plato distinguishes three εἴδη, the "kind" of thing that is Limited, the "kind" of thing that is Unlimited, and the "kind" of thing that is Mixed (23c12–d1). Then a "fourth γένος" is also distinguished (23d5, 8). The fourth γένος is cause (αἴτια: 23d7, 26e3 and *passim*) with respect to the "third kind" and is identified as "intelligence" (or, mind: νοῦς) (28c7 ff). The term γένος here, like the term γένος in the *Republic*'s expression "third γένος," means "kind" just as εἶδος does, but the term is also used to indicate in addition that this kind stands in a quite different and special relation

(some form of causation) to the other kinds just distinguished. It is, furthermore, noteworthy that we are told of very few things that belong to the γένος, while it is evident that a vast number of things belong to the various εἶδη.

In the *Timaeus* Plato also distinguishes between two εἶδη, that which always is and that which comes to be, and a “third γένος.” It will appear in what follows that the usage of the terms in the *Timaeus* is the same as the usage in the *Republic* and *Philebus*: while both terms mean “kind,” γένος indicates in addition that this kind stands in a special relation to the kinds already distinguished. Furthermore, Plato mentions very few things that belong to this kind: the Receptacle and χώρα (place, room), if one makes a distinction between the Receptacle and χώρα. There is some evidence that ancient readers of the *Timaeus* understood εἶδος and γένος as equivalent terms in this context. Proclus mentions the following criticism of Plato’s distinction between the two kinds, what always is and what comes to be:

They are wont to find fault with Plato to begin with because he did not use γένος in the way that the rules of definition require, and then because he did not explain what the nature is of the defining terms (he uses) but set out the (defining terms) on the basis of our knowing (these kinds), whereas he should have investigated what the things are in themselves before (mentioning) this relation [i. e., our knowing about them] (*In Tim.* 1.241.31–242.3).

The criticism of these unidentified adversaries is this. When Plato here uses the term εἶδος he evidently means γένος (this is plain, presumably, from his talk of two εἶδη and a third γένος [48e3–49a2, referring back to 27d5–28a4]). But, thanks to Aristotelian standardization, “genus” is a technical term employed in definitions.³ To define a genus one must state the properties that the genus has of itself (its “differentiae”), not in relation to other things (“accidents”). Plato does not do this, but tells us about attributes such as being knowable by us and being objects of our perception. Therefore Plato misuses his terms.⁴ Proclus, of course, defends Plato. But what is interesting here is that ancient readers of the *Timaeus* recognized that (a) γένος and εἶδος mean the same thing in this context and that (b) these terms cannot have the technical sense of genus, or *a fortiori*, of genus and species, unless Plato uses them wrongly. The ancient critics were not willing to allow for the possibility that Plato uses these terms in some pre-technical sense.

Talk of kinds entails that there be things which fall under, belong to, or are members of these kinds. This being the case, Plato probably distinguished between kinds and Forms. Plato, in so far as he held Forms to be ontologically independent of the things that partake of them, can strictly speak of a Form being “by itself” but he does not speak of a kind as being “by itself”; a kind must have members.

3 See, e. g., *Top.* A 5. 102a31, *Met.* Δ 28. 1024b4–6.

4 See Aristotle, *Top.* Δ 1. 120b21–29.

Thus far I have argued that Plato uses the terms εἶδος and γένος in the general sense of “kind.” I have also argued that in the passages where Plato enumerates various εἶδη and a further γένος he uses these terms to mean “kind” and that γένος is used with additional implication. Now I shall discuss the two εἶδη that Plato distinguishes in the *Timaeus*.

The Two Εἶδη

The task assigned to Timaeus at the beginning of the *Timaeus* is to discourse on the world.⁵ As a basis for his analysis of the world Timaeus distinguishes two basic kinds:

In my opinion, then, the following must first be distinguished: what is that which always is (τὸ ὅν ἀεὶ) and does not have coming-to-be, and what is always coming to be (τὸ γιγνόμενον ἀεὶ) and never is? The former is to be apprehended by thinking with the help of reason, being always the same, but the latter is to be opined by opinion (δόξῃ) with the help of unreasoning perception, coming to be and passing away, but never really being. (27d5–28a4)

Timaeus quickly explains that the things in this world, and the world itself, belong to what he calls “that which is always coming into being.” The world, he says, “has come to be (γέγονεν); it is visible and tangible and has a body, but all such things are perceptible, and perceptible things, as has become apparent, are apprehensible by opinion with the help of perception, they come to be (γιγνόμενα) and are generated” (28b7–c2). All such things, all γιγνόμενα, “necessarily come to be by the agency of some cause (αἴτιον)” (28a4–5). Their “cause” is properly the Demiurge⁶ who, like an artisan, gazes at unchanging, eternal paradigms, the Forms, as he fashions them such that they have the “look and force (ἰδέαν καὶ δύναμιν)” (28a8) of the original (28a6–b1; c3–29b1). These paradigms belong to what he calls “that which always is.” The distinction, then, that Timaeus makes is between two distinct kinds of things that stand in a specified relation to one another. Timaeus makes this distinction by referring to the diverse attributes possessed by each kind. The attributes of the two kinds, as Plato sets them out here, are as follows:

5 The *Tim.* claims to follow up the *Rep.* (see 17c1 ff) as the first part of a trilogy consisting of lectures by Timaeus of Locri, Critias, and, presumably, Hermocrates (see Cornford 1937, 6–8). Timaeus, as knowledgeable in astronomy and natural science, is to discourse on the generation of the world and end his account with the nature of man (27a3–6).

6 Cf. Mueller 1998. Mueller argues that whereas in the *Phd.* Plato offers the Forms as αἴτια of becoming (*F*), in the *Tim.* the Demiurge assumes much of their causal role since they have become the paradigms according to which *he* (better, *it*) produces the world.

<i>Kind I</i>	<i>Kind II</i>
always is	always ⁷ comes to be
never comes to be	never is
always the same	comes to be and passes away
apprehended by intelligence	apprehended by opinion
with reason	with perception
uncaused	caused
paradigm	image of paradigm

Timaeus makes a clear effort to set out these kinds as radically distinct and, as far as one can tell, exclusive.⁸ Although these kinds have no names, no words commonly used to denote them, Plato seems intent to provide sufficient distinguishing, if not defining, attributes of each group of things to render them determinate. They are not, then, presented as loose classes, but as kinds.

The first Kind and "to be"

The first Kind "always is," that is to say, all its members can be said always to be. What Plato means by this claim lies in the sense in which he uses the term "to be." "To be," of course, has various usages. For us the most apparent usage concerns existence, the so-called "existential" use of "to be"; the Greek verb and its cognates are often translated as being existential in sense. But care is needed here. J. S. Mill's comment on "to be" still bears citing:

Many volumes might be filled with the frivolous speculations concerning the nature of Being (*tò òv, οὐσία, Ens, Entita, Essentia*, and the like), which have arisen from overlooking this double meaning of the word *to be*; from supposing that when it signifies *to exist*, and when it signifies *to be* some specified thing, as to *be* a man, to *be* Socrates, to *be* seen or spoken of, to *be* a phantom, even to *be* a nonentity, it must still, at bottom, answer to the same idea; and that a meaning must be found for it which shall suit all these cases. The fog which rose from this narrow spot diffused itself at an early period over the whole surface of metaphysics.⁹

Mill distinguishes two quite distinct uses of "to be" and claims that a confusion of the two can be the cause of deep metaphysical "fog." The first use, that which asserts existence, as in the statement "Socrates is," is often called the "complete" or "absolute," while the second use, as in "Socrates is a man," is often called the "incomplete" or "predicative" use. Thanks largely to the work of Kahn and in-

7 Although good MSS (A, P) read ἀεὶ, Proclus, *In Tim.* 2 233.18–20, notes some discussion about the fact that in the text ἀεὶ does not stand before γιγνόμενον. See Whittaker 1973, Dillon 1989, 60–63.

8 On the exclusivity of the two classes see G. E. L. Owen 1953, 85; Bolton 1975, 68.

9 J. S. Mill 1890, 67.

fluential comments by Owen, much attention has been paid to the question whether and how the distinction between complete and incomplete uses can be applied to the Greek use of "to be." Putting to one side discussion over a further "veridical" use¹⁰ – where "is" implies "is the case that" – and whether or not Plato distinguished an "is of identity," scholarly investigation has focused on the relation between the complete and incomplete uses, specifically on what the *primary* use of "to be" was. Does the complete use derive from the incomplete or the reverse? Modern English users would perhaps be inclined to say that the complete use, implying existence, is primary. The consensus, however, on this question is that primacy belongs to the incomplete or predicative use. Owen, for example, says, "To be, then, is always to be something or other: this comes naturally from the Greek idiom, a favorite of Plato's, which expresses 'A exists' as 'A is *something*'."¹¹ Kahn: "Since this conception of reality is articulated in Plato by copula sentences of the form 'X is Y,' it turns out that even the concept of existence gets expressed in this predicative form: as we have seen, Platonic Greek for 'X exists' is 'X is something,' είναι τι."¹² Brown, in a more recent discussion of the use of "to be" in Greek philosophy, plausibly argues for a somewhat more nuanced understanding of the complete use of "to be," in Plato in particular, according to which even the complete use does not directly equate with existence.

One can say "Jane teaches" or "John is eating" as well as "Jane teaches French" or "John is eating grapes." The former, complete uses are related to the incomplete in the following ways: "John is eating grapes" entails "John is eating," which in turn is equivalent to "John is eating something." One who hears "John is eating" can properly ask "eating what?" . . . In like vein I have proposed that the complete "is" in Greek allows further completion: to any assertion that such-and-such is, it can be properly asked "is what?" This is why it is misleading to link the complete "is" too closely to "exist": for the follow-up question "exists what?" is not permissible.¹³

Brown argues that in Plato's Greek the expression "x is" is like "Jane teaches." "Jane teaches" implies "Jane teaches something"; likewise "x is" implies "x is . . .". If this is right, the complete use of "to be" cannot be sharply distinguished from the incomplete use. So Mill's sharp distinction between the complete and incomplete uses of "to be" should not be strictly applied to Greek usage. Brown argues that ". . . there is a certain seamlessness, or continuity, between uses of *esti* which the dichotomy 'complete/incomplete' masks. I suggest there is no point at which a Greek speaker would detect a quantum leap from one *esti* to another."¹⁴ The "seamlessness" of Greek uses of "to be" lies in the underlying

10 See, for example, Kahn 1981.

11 G. E. L. Owen 1965, 76.

12 Kahn 1976, 333.

13 Brown 1994, 225.

14 Brown 1994, 226.

incompletion of "to be." To sum up, then, recent discussion on "to be" we may say that in Plato the complete use of "to be" is derivative from the incomplete, predicative use; or we may say that the complete use assumes and implies the incomplete use and should not be sharply distinguished from it. In short, one may say that, "Being for Plato always is a matter of being something or other."¹⁵

In the *Timaeus* Plato claims that the members of the first Kind "always are." In view of what has just been argued this must mean that each of these members "always is <something>," or otherwise stated, "always is *F*" where "*F*" stands for a predicate. Although Plato does not mention the Forms, or paradigms, until 28c6 and 29b5–c1, it is clear that the Forms are just such things because a Form is, by definition, the Form of *F*-ness and nothing else. If a Form were to cease to be *F*, it would simply not-be; therefore it must "always" and unchangingly be *F*. A Form, one might say, is really *F*.¹⁶ From this follow the first Kind's attributes of being always the same, of never coming to be, and of being uncaused (cause is always cause of coming-to-be [28a4–5]). How the attribute of being apprehended by thinking follows is less evident. Plato would not, one should think, wish to claim that "to be *F*" necessarily implies "to be apprehended by a mind to be *F*," even though Neoplatonist ontology seems to assume this. At any rate, it is quite evident that the first Kind comprises entities that are quite distinct from the objects of human perceptual experience.

The second Kind and "coming-to-be"

The second Kind consists of things that are (always) coming to be. The expression "coming to be" is used in relation to the term "to be"; its meaning, therefore, must be determined in reference to the term "to be." Because "to be" must be understood to mean in the first instance "to be *F*," "coming-to-be" means "come to be *F*." As an example, let the predicate (*F*) be "white." The Form or paradigm Whiteness, one of the members of the first Kind, just is what it is to be white. A physical thing, on the other hand, is "white," but in a very different way. A physical thing is white, according to Timaeus, in as much as it has the "look and force" of the paradigm Whiteness, that is, in as much as it is an "image" (29b3; cf. 48e6) of the paradigm. To be an image of a paradigm is to be like or resemble the paradigm in some way appropriate to the kind of thing something is, e. g., a physical thing. So a physical thing is white by virtue of a having a physical likeness to the paradigm Whiteness. But having a physical likeness cannot be the way that the paradigm of Whiteness is white. So if we say that the members of the first Kind are "really and properly" *F*, the members of the second Kind,

15 M. Frede 1992, 409

16 See Code 1988, 53.

physical things, are “not really” *F*, they are “improperly” *F*. The expression “come to be *<F>*” is meant to express this¹⁷ because if we are to speak accurately, we should say that such things “never really are *<F>*” (ὄντως οὐδέποτε ὄν [28a3–4]) and so must find another term besides “to be” to use with respect to them. One way of being “improperly” *F* is to be *F* as being subject to change. The Forms, or paradigms, are “always,” unchangingly *F*, but because a physical thing is *F* (i. e., comes to be *F*) by having a physical likeness, and what is physical is subject to change, a physical thing is *F* in a way that undergoes change.¹⁸ What changes is unstable, and to have a likeness to a paradigm is to stand in a relation to that paradigm. Therefore what comes to be *F* (what is “improperly” *F*) stands in an unstable relation to the Form or paradigm of *F*-ness. In fact, as will be discussed below, a physical thing’s relation to Forms is itself a kind of change. Plato, furthermore, claims that in as much as the members of the second Kind are not *F* by virtue of themselves but by virtue of a relation (likeness) that they have to the paradigm of *F*-ness, there must be a *cause* of their having this relation. So there is cause of all cases of “coming to be *F*” (see 28a4–5; cf. *Phlb.* 26e3–4). Therefore everything that comes to be is caused. Finally, Plato claims that the members of the second Kind are objects of perception. This attribute does not strictly follow from these being things that “come to be *F*.” Indeed, Plato tells us how soul came to be, but soul is not an object of sense perception (see 46d6). Therefore not all things that come to be are objects of perception. It is clear, at least, that Plato wishes to establish that the objects of the world he is now about to discuss are members of this second Kind.

The things that belong to the second Kind are ontologically quite distinct from the things that belong to the first. Nevertheless, the two kinds are closely linked by virtue of the fact that the members of the second Kind “come to be *F*” because of their relation to the members of the first Kind.

The members of the two kinds account for all things, that is, viewed with respect to “being *F*.” All things must be conceived of as either “being *F*” or “coming to be *F*.” Together these two kinds – “what is” and “what comes to be” – comprise everything, or so it seems.

17 See M. Frede 1988, esp. 48–49; Code 1988, esp. 55–56.

18 Cf. Code 1988, 54: “The sensible Fs, being subject to change in every respect are never F without qualification, for what is F without qualification could never change with respect to F-ness. Thus the fact that the sensibles are subject to change in every respect explains why, once a sensible has come-to-be F, it none the less is not really F (though it is, to be sure, F).”

The Two εἶδη and the Third γένος

After distinguishing the two Kinds Plato proceeds to give an account of the “universe” (or, the Whole of things: τὸ πᾶν; 30c2–34b3), of soul and motion (34b3–41d3), and of soul’s mixture into body (41d4–47e2). Physical things with the passage of time change, grow, maintain their states, decay, and perish. This fact has two causes, soul and the nature of body. Plato has already discussed the generation of soul and given a preliminary account of soul’s effect on body. Soul causes body to grow and regenerate by organizing and replacing elemental parts and tissues (42e7–43a6). But no explanation of body’s composite nature has yet been given beyond a cursory account of the composition of the body of the Whole (31b4–32c4). Therefore, to continue the account of living things a full account of the nature of body must be given. To do this Timaeus halts the discourse and states that he must make a “new beginning” (48b2). The “new beginning” itself begins by distinguishing a third γένος, which is also called an εἶδος.

Let the new beginning about the Whole of things make further distinctions than before. Earlier we distinguished two kinds (εἶδη), but now a different, third kind (γένος) must be explained. The two, indeed, were sufficient for the earlier discussion: one was postulated as a kind (εἶδος) of paradigm, being intelligible and always the same, the second (was postulated as) an image (μίμημα) of a paradigm, having genesis and being visible. But we did not distinguish at that time a third, thinking that the two would suffice. Now, however, it seems that the argument compels us to attempt to explicate with words a difficult and obscure kind (εἶδος). What power and nature should it be supposed to have? This sort especially to be a receiver of all coming-to-be as a nurse. (48e2–49a6)

As I begin to discuss of third Kind something must be said about of the members of the third Kind. Timaeus tells us that a third kind must be distinguished and then proceeds directly to speak about what is called the Receptacle (ὑποδοχή [49a6]), and later on, as I shall discuss in Chapter Three, he also speaks of place (χώρα); he no longer mentions a third Kind. This might seem to suggest that the third Kind is identical to its members, the Receptacle and place. But there is no need to draw this conclusion. Plato’s purpose is to give an account of the physical world. He therefore only makes metaphysical distinctions when such distinctions will contribute to the coherence and plausibility of his account. For example, the distinction between the first and second Kinds at 27d5–28a4 serves to establish the basic framework of Plato’s account: physical things are ordered, by the agency of Intelligence, in relation to intelligible paradigms. The metaphysical distinction between three Kinds serves to establish the framework of Plato’s account of quite obscure but necessary constituents or factors of the physical world. Once the framework is established, Plato proceeds directly to these factors, and chiefly to the Receptacle. As will become evident in Chapter Three, Plato treats the Receptacle as being what I would call a “third kind of

thing."¹⁹ This means that many, but not all, of its attributes are stated in terms used of the third Kind. For example, the third Kind is a "that in which" for coming-to-be; the Receptacle is "that in which" the elemental bodies come to be. This fact makes it rather difficult to distinguish clearly between the third Kind and its members.²⁰ In what follows I shall attempt to restrict discussion to the third Kind and its attributes, which is to say that I shall not discuss what pertains to the Receptacle or to place (*χώρα*).

The account of the first and second Kinds at 49a1–6 closely parallels the account at 27d5–28a4. In the course of the discussion of the Receptacle that follows Plato, at 50c7–d2, refers back to the distinction of the three Kinds and says: "It is necessary that three Kinds (*γένη*) be conceived: that which is coming to be, that in which it comes to be, and that from which, taking a likeness, what comes to be springs up." The following is a list of the attributes of the Three Kinds taken from these passages:

<i>Kind I</i>	<i>Kind II</i>	<i>Kind III</i>
always is	always comes to be	receives coming-to-be
never comes to be, ungenerated	never is	—
always the same	comes to be and passes away	—
apprehended by intelligence with reason	apprehended by opinion with perception	difficult and obscure
not an object of perception	visible	—
uncaused	caused	—
paradigm	image of paradigm	—
that from which for coming-to-be	comes to be	that in which for coming-to-be

This list indicates that the third Kind is primarily defined by its relation to what comes to be, or to the process of coming-to-be. I have already argued that the first two Kinds are distinctions between how something can be said to "be *F*." One might expect, then, that the new Kind too should be somehow distinctive with respect to "being *F*." The fact that it "receives" what comes to be suggests that this is somehow the case. But a problem immediately arises. In as much as

19 The transition, I take it, from discussion of the third Kind to the third kind of thing involved in elemental coming-to-be begins at 49a4–6 where Plato asks what the "power and nature" of the third thing is and replies "to be a receiver of all coming-to-be as a nurse." The third Kind is a receiver of coming-to-be (the second Kind), while the third kind of thing, the "Receptacle," receives the coming-to-be of the elemental bodies and so, in a sense, the coming-to-be of all body. So the attribute "receiver" applies to both. But "as a nurse" seems to refer only to the Receptacle which shakes; this is explained at 52d4ff. After mention of the "nurse" the discourse turns directly to the generation of the elements.

20 Cf. the apt observation of Mueller 1987, 247: "As a philosopher, Plato seems to be constantly at the border between the substantive and the conceptual."

the distinction of a kind recognizes characteristics shared by a group of things, there should be things that can said to be members of a kind. But if, as suggested above, all things fall under the first and second Kinds, the new kind will have no members. The problem, then, is that the being and coming-to-be seem to account for all the possible ways of “being *F*.” Four solutions to this problem present themselves. It is the case that: (1) there is in fact another way of “being *F*” that does not fall under the Kinds of “being” and “coming-to-be,” or (2) in distinguishing the third Kind Plato has somehow redefined the first Kind or the second Kind or both such that there will be entities that fall under the new kind, or (3) the third Kind is a product of the mixture of the first and second Kinds, or (4) the new kind is not distinguished by reference to how things are *F*. I shall examine these possibilities.

(1) is untenable because only “not being” remains outside being and coming-to-be (cf. *Rep.* 478d5–8) and “not being *F*” is trivially not any instance of “being *<F>*.²¹ (1), however, cannot be so easily disposed of. The holders of interpretation II.1, discussed in Chapter One – that is, those who hold that the Receptacle is empty or pure space – might object that the Receptacle, the only member of the third Kind Plato mentions in their view, is precisely a case of “not being *F*,” that empty space is a kind of privation of form, and Plato identifies form with being. To this objection one may reply by asking the objectors whether empty space, in their conception, is a physical entity, a metaphysical entity, or neither. If a physical entity, it must be a part of the Whole (*tò πᾶν*), have come to be, and therefore fall under the second Kind. If a metaphysical entity, which II.1 rather suggests, the third Kind is asserted to be some sort of metaphysical space. We will need an explanation of what a metaphysical space is, since “space” normally refers to a fact about the physical world. If we define “metaphysical space” as a “that in which” (*tò ἐν ψ:* I shall say more about this concept below), whatever “that” might be in each case, it is difficult to see how such an entity would be a case of pure “not being *F*,” in as much as the expression “that in which” signifies considerably more than mere privation. Finally, if it is claimed that empty space is neither a physical nor a metaphysical entity, we will need further clarification of the concept that is being offered. We should not accept an unintelligible concept as a clarification of Plato’s obscure third Kind.

(3), that the third Kind is a product of the mixture of the first and second Kinds, might be suggested by *Timaeus* 35a1–4 where, as a preliminary for the construction of soul, Plato mentions the production of a “third kind (*εἶδος*) of being

²¹ Below, pp. 57–60, I shall suggest that the third Kind can be said to “be” something in the sense of being a kind of cause of coming-to-be. This claim does not militate against the argument against (1) because being a cause of coming-to-be does not entail in this case that the cause is either something that “is” or something that “comes to be” in Plato’s application of the terms.

(οὐσία)" by the mixture of divisible and indivisible being.²² (3) is implausible for many reasons. Among them, even granting that a mixture of being and coming-to-be were conceivable, how could such a mixture not be a case of coming-to-be? In as much as the mixture is a case of coming-to-be, it could not constitute a third Kind that is distinct from the second. Further, (3) suggests that the second Kind is causally antecedent to the third Kind as being that out of which (along with the first Kind) the third Kind is produced. But Plato, to the contrary, states that the third Kind is a necessary condition of coming-to-be as being that which "receives" coming-to-be or that-in-which it occurs (see below). As such, the third Kind is causally antecedent to the second Kind.

Possibility (4), that the new kind is not distinguished by reference to how things are *F*, is unlikely because the chief attributes or characteristics of the third Kind listed above are clearly connected to its function in relation to the first and second Kinds. That is, because the second Kind "comes to be *F*" by virtue of its relation to the members of the first Kind, the third Kind makes it possible for this relation to occur.

This leaves possibility (2), that in distinguishing the third Kind Plato has somehow redefined the first Kind or the second Kind or both such that there will be entities that fall under the new kind. In point of fact Plato does not say that he is adding another kind of beings of some sort, but that he needs to "make further distinctions" (48e2–3). This seems to mean that where he distinguished two kinds he now finds it necessary to distinguish three. To accomplish this Plato must redefine the first Kind or the second or both. The members of the first Kind *are* precisely what they are and nothing more. The Forms simply are $\langle F \rangle$; any qualification leading to a further distinction here would alter this essential property. The members of the second Kind, on the other hand, are always undergoing change; what unites the members of this kind is primarily that they are always "coming to be $\langle F \rangle$." To understand how Plato might redefine the second Kind so as to distinguish a third, more must be said about "coming to be $\langle F \rangle$ " in the context of the *Timaeus*.

The members of the first Kind, the Forms, are "always the same" (28a2); they are unchanging with respect to the *F* that they *are*. Here Plato is exploiting what Kahn calls the "static aspect" of the Greek "to be." The members of the second Kind, physical things, change with respect to the *F* that they come to be: they "come to be $\langle F \rangle$ and cease to be $\langle F \rangle$ " (28a3). This is what Kahn calls the "mutative aspect" of the Greek verb "to become."²³ Physical bodies, both animate and inan-

22 One might compare here the passage in the *Phlb*, mentioned above, where Plato distinguishes a third Kind ($\epsilon\iota\deltao\varsigma$) that is a mixture of the two Kinds: Limit and Unlimited.

23 See Kahn 1973, 194–98. Kahn borrows these distinctions from Lyons 1968, 397–98, who argues that the locative and directional opposition found in sentences is a "particular instance of a more general aspectual opposition which might be called static and dynamic; and that as locomotion is to location ... so becoming is to being" (397).

imate, constantly undergo change, that is, alteration, over time.²⁴ Plato mentions in the *Phaedo* that the “the body of a man flows (ρέοι) and perishes while he is still living, but the soul constantly weaves anew that which is worn away” (87d9–e1). In the *Timaeus* Plato explains this process in detail. The bodies of living things are surrounded by externals that have a constant effect on them: “The (elemental particles) that surround us outside are always dissolving us and dividing us up, sending away each kind (of element) to its kindred” (81a4–6). Because the bodies of living things are always being dissolved, their substance must be constantly replenished. Growth of the organism occurs when replenishment exceeds dissolution, and decay when dissolution exceeds replenishment: “When more goes away than what flows in, every (being) decays, but when less (goes away than flows in, every being) grows” (81b4–5). This is true of inanimate bodies as well. Therefore all bodies undergo constant change over time. This constant change entails that in some respects²⁵ they are always somewhat different, but in other respects they remain the same, that is, in so far as what is lost is replenished. As long as the replenishment continues, a physical thing remains what it is. An example of this is health. An organism remains healthy when it maintains the proper proportion of its elemental constituents while undergoing their loss and replenishment.²⁶ The only physical thing mentioned in the *Timaeus* that does so perpetually is the world as a whole;²⁷ other physical things remain what they are only for a time. This latter point is put succinctly in the *Symposium*: “Although this (individual) (οὐτος) never has the same (things) in himself, nevertheless he is said to be the same, always becoming new, but losing things: hair, flesh, bones, blood, and (so) the entire body” (207d6–e1). Plato goes on to make the more general claim that all mortal beings “are preserved” as they are when “something new” replaces “what goes away and grows old” (208a7–b2). From the perspective of the *Timaeus*, if a physical thing

24 I am not concerned here with what Irwin (1977b, 4) calls “aspect change” – which he defines as “ x aspect changes iff x is F in one aspect, not-F in another, and x is in the same condition when it is F and when it is not-F” – but rather with what he calls “self-change,” defined as, “ x self-changes iff at time t_1 x is F and at time t_2 x is not-F, and x itself is not in the same condition at t_2 as it was at t_1 .”

25 Some respects, not all respects, as the Heracliteans reportedly held. See Irwin 1977b, 9–13.

26 Plato’s rather obscure definition of a living organism’s states of health and illness is as follows: “For we say that only that which will allow the same to the same, in the same respect, and in the same way and in due proportion taking on and losing, being the same as itself, this remains sound and healthy. But that which goes awry in one of these ways, going beyond or adding on, will cause every kind of alteration and countless sicknesses and corruptions” (82b2 -7).

27 The world is one and complete in itself, it “contains everything” (31a4) and there is nothing outside it (32c7–8, 33c2, 33c6–7); it has no need of anything from without itself, were there any such thing (33c2). Since it is completely self-sufficient (33d2, 68e3), it has no limbs or organs that might help it get from outside what it needs or process what it receives (e. g., lungs, gullet [c3–5]). It feeds on its own decay (c7–8), that is, the things within it that decay. Since there is nothing outside it to disrupt it and since it has no unprovided needs, the world is, as a whole, everlasting.

can be said to "be" anything, any *F*, it is so as a-thing-in-change. The shorthand expression for "'being' *F* as a-thing-in-change" is "coming-to-be *F*," the chief attribute of the second Kind.

I have just suggested that in the *Timaeus* the expression "coming-to-be *F*" represents the claim that the things to which this expression is applied, physical things, "are" *F* as things that undergo change. Now I will argue that physical things "are" *F* by virtue of the change they undergo. In Timaeus' account two basic factors underlie the physical world: bits of bodily stuff and motion. Timaeus envisions a precosmic state in which the Whole of things "was not in a quiet state but was moving disharmoniously and disorderly" (30a4–5, cf. 53a8). In this state of affairs there was only randomly formed and randomly moving "traces" of elemental structures (53b2). The Demiurge, or Craftsman, brought this chaos "into order out of disorder" (30a5). The Demiurge did so by ordering motion by the fashioning of a world soul and by constructing regularly shaped elemental bits that would combine in regular ways. As a result of the Demiurge's efforts the Whole was turned into a cosmos, an ordered state of affairs, in which physical change – which is reducible to the motions of elemental bits – is not random but proceeds in an ordered way, achieving what is best, as far as possible (48a3). This means that change is not random in the world which we inhabit, but proceeds in a determinate way, that is, towards a determinate end. The various ends towards which physical change proceeds are established by the Demiurge as realizations of the "paradigms" he consults, that is, the Forms. But Forms are the Form of *F*-ness. Therefore ordered change proceeds towards *F*-ness and produces *things* that can be said to "be" *F*, e. g., white or human, in a qualified sense. The meaning of the expression "coming to be *F*" is explicated in the *Timaeus* as "ordered change proceeding towards *F*-ness," or more concisely, "*F*-directed change." In as much as "coming to be *F*" means to undergo *F*-directed change, whatever comes to be *F* does so by virtue of the change it undergoes.²⁸

The second Kind, as defined at 27d5–28a4, is "that which is (always) coming to be <*F*> ($\tau\ddot{o}\ \gamma\iota\gamma\nu\mu\epsilon\nu\sigma$)."²⁹ I have just argued that "coming to be *F*" is an *F*-directed process of change. But for change to exist there must be something that changes, just as there must be something that moves if there is motion. Therefore the second Kind is not defined simply as "coming to be <*F*>" but as "that which comes to be <*F*>"; the subject of the expression "comes to be" is included as a necessary element. This fact, however, makes it possible to "make a further distinction" (48e2–3) in the second Kind, a distinction between the process and

28 Cf. *Phlb* 54c2–4: "Each (case of) coming-to-be comes to be for the sake of ($\epsilon\nu\varepsilon\alpha$) some other particular being ($\nu\omega\sigma\alpha\zeta$), and (in general) all coming-to-be as a whole comes to be for the sake of all being as a whole." The expression "come to be for the sake of a being" suggests that coming-to-be is directed towards being, that is, being *F*, as a kind of end, or stated otherwise, coming-to-be is a process directed towards *F*-ness.

that which is the subject of the process, that is, a distinction between “that which” comes to be and “coming to be *F*. ” It should be noted immediately that a distinction between the subject of a process and the process itself is primarily a conceptual distinction, like the more common distinction between a motion and the thing that moves. That is to say, when Plato distinguishes a third Kind out of the second, the distinction does not necessarily entail that there be independently existing things that are members of the third Kind and are different from the things already belonging to the second Kind. As noted above, there can be no things that fall outside the first and second Kinds. The distinction of a third Kind also requires that the second Kind have a somewhat new definition. I shall return to this point below.

The third Kind as “that which receives”

To make plausible the distinction that he needs, Plato employs language that serves to highlight the difference between that which comes to be and coming-to-be. A term that lends itself to this distinction is the verb “to receive” ($\deltaέχεσθαι$). In the *Phaedo* Plato uses this term in a context that distinguishes between a thing ($\piράγμα$) and the properties that the thing possesses. Socrates argues that although one may say that opposite things – that is, things that have opposite properties – come to be out of opposite things, it cannot be the case that the opposite properties themselves, such as shortness and tallness, evenness and oddness, come to be out of one another (103b2–6). Properties, Socrates argues, do not “receive the coming-to-be” ($\gammaένεσιν \dots \deltaέξασθαι$) of their opposites (103c1–2). Things, on the other hand, do “receive the coming-to-be” of opposite properties, as Simmias, being tall, receives the coming-to-be of shortness when placed next to Phaedo. An exception to this rule is the case in which a property is what we might call “essential” to a thing, as cold is to snow, such that snow cannot “receive the coming-to-be” of heat and remain snow (103d5–7). The reason, then, that a property, *F*-ness, cannot “receive the coming-to-be” of its opposite (not-*F*-ness) is that if it did so it would cease to be, that is, cease to be *F*. It follows that the reason that a thing having the property *F*-ness can “receive the coming-to-be” of the property not-*F*-ness is because it will not cease to be *simpler*, but will only cease to be *F* while continuing to be *G*, *H*, and so on, and coming to be not-*F*. In general the claim is, then, that a thing can “receive the coming-to-be” of some property only if the reception does not cause it to cease to be what it is. It follows that what “receives” must be something and be able to remain what it is while receiving. This implies that what the receiver receives does not change it in some essential way, as Socrates remains Socrates although “receiving” tallness or shortness: “I [Socrates], having received and submitted to ($\deltaέξαμενος \chiαι \acute{ο}πομείνας$) shortness, and still being ($\acute{ε}τι \omegaν$) precisely who I

am, this very same *(individual)* (*οὗτος ὁ αὐτός*), am *(now)* short" (102e4–5). The receiver is what it is independently of what it receives. Only a thing that satisfies this condition can "receive the coming-to-be" of some property, that is to say, can "come to be some *F*." By using, then, the term "to receive" Plato makes a rather clear distinction between *that which* comes to be (the receiver, the subject of coming-to-be), and coming-to-be *(F)* (what is received). This distinction is less evident in the expression "that which comes to be *F*" (*τὸ γιγνόμενον*) because it is precisely the subject that is said to "come to be."

Plato takes up the *Phaedo*'s use of "to receive" in the *Timaeus* to help distinguish between the second and third Kinds. The third Kind, we are told, "receives" the second Kind in as much as the third Kind is "a receiver (or, receptacle) of all genesis" (*πάσης γενέσεως ύποδοχήν* [49a5–6]). Following the implications of the usage of "to receive" in the *Phaedo*, this would seem to imply that the third Kind is what it is independently of the second Kind, that is, that the coming-to-be that it "receives" does not affect what it is. Plato claims exactly this about the Receptacle (see below, ch. 3). Even so, I have argued above that the distinction between coming-to-be and that which comes to be is primarily a conceptual one. I have argued that by distinguishing the "receiver" of coming-to-be from coming-to-be Plato has not introduced a new entity into his ontology, but taken his analysis of what comes to be one step further. It now seems, however, that the members of the third Kind must be somehow ontologically distinct entities from the those of the second Kind in as much as they are not affected by what they receive. I shall discuss the ontological status of the third Kind shortly. It is a well-known philosophical problem that the making of metaphysical distinctions often suggests that we should increase the number of ontologically distinct entities we recognize. For the moment I turn to another expression that Plato employs to distinguish the third Kind from the second.

The third Kind as "that in which"

Perhaps the expression used most consistently for the third Kind is "that in which" (*τὸ ἐν ᾧ*), as in "that in which *(the second Kind)* comes to be" (*τὸ ἐν ᾧ γίγνεται* [50d1]). Just as the word "container" both refers to and distinguishes itself from what is "contained," so this expression for the third Kind both refers to and distinguishes itself from the second Kind, that which comes to be "in" it. Still, what Plato means by "in" here is far from obvious. The relevant sense of the term appears in the *Phaedo*. There Plato discusses the "coming to be" of opposite properties in subjects. Socrates argues that because Simmias is both taller than Socrates and shorter than Phaedo, "both tallness and shortness are *in* Simmias" (102b5–6). When placed next to Simmias, Socrates is said to "receive and submit to shortness" (102e3–4), which is equivalent to shortness "being in

him" and to being "short" (e5–7). As long as Socrates is viewed relatively to Simmias' height, he "receives" shortness and shortness is "in" him. By saying that "shortness is 'in' Socrates" Plato does not intend to claim that the Form shortness is physically "in" Socrates, but that Socrates, by standing next to Simmias, has a relation to the Form such that he can be said to be short. Plato speaks about the relation that particular things have to Forms using a variety of expressions, all of which are designed to maintain a distinction, or separation, between Forms and the things that stand in relation to them. Such expressions are "*x* participates in the Form of *F*-ness" and "the Form of *F*-ness is present in *x*" (see 100d5–6). To say that that "*x* (Socrates) participates in the Form of *F*-ness (shortness)" means just that "Socrates is short." But when Plato chooses to make the distinction between being and coming-to-be he will say that, properly speaking, "Socrates comes to be short." "*x* comes to be *F*," then, is equivalent to "*x* participates in the Form of *F*-ness"²⁹ and "the Form of *F*-ness is present in *x*"; it is also equivalent, as discussed above, to "*x* receives the coming-to-be of *F*-ness." The point I wish to make is this: when Socrates uses the "in" expression, as "the Form of shortness is present *in* Socrates" or "shortness is *in* Socrates,"³⁰ it signifies just what "Socrates comes to be short" signifies, and just as "Socrates" is the subject term (I use "subject" here in a metaphysical sense, not a grammatical sense) in the latter expression, "*in* Socrates" is the subject term in the former.

The use of the expression "in" has the advantage of making a rather clear distinction between a subject, such as Socrates, and a property, *F*-ness, that the subject possesses. It does so because we do not tend to identify a container with what it contains. In the *Timaeus*, to separate out a distinct Kind from the second Kind, Plato speaks of this third Kind as a "that in which" coming-to-be occurs. It is as though Plato combines the two equivalent expressions "*F*-ness being in *x*" (= "the Form of *F*-ness being present in *x*") and "*x* coming to be *F*" into a single expression "coming to be *F* in *x*" and then conceptually separates out the subject term "in *x*" to get the third Kind, leaving a new second Kind as "coming to be *F*."

Plato does not use the expression "coming to be *F* in *x*" directly. It is awkward because "in *x*" cannot serve as the grammatical subject of "coming to be"; therefore one expects a third term,³¹ such as "y coming to be *F* in *x*." Still, Plato does use the expression indirectly. For example, when discussing the elemental bodies in abstraction from the Receptacle, he describes the Receptacle as "that in which

29 Cf. *Prm.* 156a4–5: "Do you not call participation in being (*οὐσίας μεταλαμβάνειν*) coming-to-be?"

30 Socrates distinguishes between shortness itself (the Form of *F*-ness), or "in nature," and shortness "in us" (*F*-ness in *x*) (102d6–7; 103b5). It is correct to say only that the Form of *F*-ness is present in us, whereas one can correctly say that *F*-ness is in us.

31 The apparent need for a third term, "y," in part led Cherniss (e. g., 1954, 122–24) and others (e. g., Lee 1967, 27) to argue for "self-identical, recurring characteristics" that enter and depart from the Receptacle (see ch. 1, position II.2).

each one of them always coming to be appears (*ἐν ᾧ ἐγγίγνομενα ἀεὶ ἔκαστα αὐτῶν φαντάζεται*) and again from there vanishes” (49e7–8). Before the elemental bodies “enter” the Receptacle they do not exist, just as they cease to exist after they depart; they are physical things and “appear” only when they are in it. Therefore it would not be accurate to say that “fire (or something else) comes to be fiery in the Receptacle,” that is, that fire (or something else) is some “y” that comes to be fiery (= *F*) in the Receptacle (= *x*). One must say instead that fire is a “coming to be fiery in the Receptacle.” Accordingly, Plato eventually defines fire as “the Receptacle coming to be fiery” (= “*x* coming to be *F*”) and an individual fire body as “a portion of the Receptacle coming to be fiery” (see 51b4–6).

A further example of Plato’s usage of “that in which” can be found in the *Republic*. When discussing how light makes seeing possible Socrates reasons: “Seeing is not the sun, nor is that in which *(seeing)* comes to be (*ἐν ᾧ ἐγγίγνεται*), namely what we call the eye” (508a11–b1). Plato, following Empedocles, understands “seeing” (*Ὥψις*) to be a process of interaction between the visual stream enhanced by sunlight and particles from objects; when this interaction is transmitted into the eye, the soul becomes aware and experiences seeing. “Seeing,” therefore, is a process that “comes to be in” the eye.

The third Kind, then, is distinguished as “the *x* in which,” or “the that in which,” coming-to-be occurs. It is evident that the expression “that in which” is quite well suited to the language of “receiving” discussed above. The third Kind is said equally to be that which receives coming-to-be and that in which coming-to-be occurs, just as a vessel both receives its contents and contains them. This definition of the third Kind seems to suggest that it is separable from the second Kind. Aristotle argues, as mentioned in Chapter One, pp. 19–20, that a “that in which” is separable; a place, or a space, for example, can be occupied by various bodies and therefore is what it is independently of that which occupies it and is not changed by what is in it. Plato does call the third Kind *χώρα* and *χώρα* may mean “place.” Does he conceive the third Kind to be separable?

To begin with, Aristotle himself recognizes eight different senses of being “in” (*Phys.* Δ 3. 210a14–24), of which being in a vessel or in place is chief (a24). Another sense of being “in” recognized by Aristotle is “health is in the hot and the cold and, generally, the form is in the matter” (a20–21). By this sense of “in” no separability is implied: matter, in Aristotle’s view, is not separable. It is, therefore, necessary to determine what sense of “in” Plato has in mind. It will, I think, become evident in Chapters Three and Five that much of the interpretation of what Plato says about the Receptacle and *χώρα* depends on what senses of “in” he is understood to employ. For the moment I argue only that in so far as what the third Kind receives is “coming to be *F*,” a process of change, it, being what is the subject of the process, is not separable. This seems to imply that it could be affected, in some sense, by what is “in” it. On the other hand, in so far as a distinction is maintained between the third Kind and what is “in” it, it should not be affected by what is “in”

it. In one sense, then, the third Kind should be affected by what is “in” it (*qua* being not separable), and in another sense it should not be affected by what is “in” it (*qua* being distinct). The third Kind is a metaphysical entity and these are metaphysical distinctions. As metaphysical distinctions there seems to be nothing unintelligible here. The third Kind’s affectability becomes a matter of concern only in its physical members. Plato argues, as I will discuss in Chapter Three, that the Receptacle is affected but not changed by elemental coming-to-be; $\chi\omega\sigma\alpha$ (place), on the other hand, is neither affected nor changed by the bodies it receives.

Does the third Kind receive the first Kind?

I have argued that the third Kind “receives” the second Kind or, equivalently, is “that in which” the second Kind occurs. Does the third Kind do the same for the first Kind? This is to ask whether the Receptacle, which has many of the attributes of the third Kind as being its member, receives the Forms. The answer to this important question is, I think, no. In the next chapter I shall discuss the passage of the *Timaeus* that seems to suggest that the Receptacle does receive the Forms. I shall now give several largely metaphysical arguments why the third Kind is not a receiver, subject, or “that in which” for the Forms. Firstly, if the Forms were received (I will use the terminology of receiving for convenience) by the third Kind it would either be because the Forms were in need of the third Kind to be what they are – that is, they could not be Forms unless they were so received – or because of some arbitrary cause, such as the decision of the Demiurge. Plato’s account of the Forms as being *F*-ness itself, as being just what each is, entails that they are perfectly self-sufficient. Therefore it cannot be the case that the Forms *must* be received by the third Kind. It remains that they may be received because the Demiurge so chooses. Plato gives an account of what the Demiurge chooses to do in the *Timaeus*. In his account the Demiurge holds the Forms as paradigms and, in accord with them, sets about producing what is called an “image” (28c2–29c4). Unless “to be received by the third Kind” means precisely and only “to be an object of the mind” (were this the case, the third Kind would be identical to the Demiurge, which it evidently is not) there is nothing in language of the Demiurge gazing at paradigms that suggests the Forms are received by anything. “Reception” occurs only in the production, or coming-to-be, of the image; that is, the production of the image requires the kind of reception for which Plato distinguishes a third Kind.

Secondly, if the Forms were received by the third Kind, then the Forms would come to be and Plato’s fundamental distinction between being and coming-to-be would collapse. The reason for these unwanted consequences is the following. I have argued above that to say, as Plato often does, that a sensible *x* participates in the Form of *F*-ness means just that *x* can be said to be *F*, e. g., Socrates is short.

But because the Forms are alone what can properly be said to "be *F*," Plato introduces the expression "come to be" with the result that "*x* participates in the Form of *F*-ness" means "*x* comes to be *F*." I have argued that "*x* comes to be *F*" is equivalent to "*x* receives the coming-to-be of *F*-ness." But let us grant that the third Kind (analogous to the sensible *x* of the *Phaedo* *qua* being a "receiver"), receives not the coming-to-be of *F*-ness but the Form of *F*-ness. This would entail that "*x* comes to be *F*" is equivalent to "*x* receives the Form of *F*-ness." But the Form of *F*-ness is what it is to *be* (in the proper sense) *F*. Therefore the third Kind receives what it is to be *F*. This can only mean that the third Kind is (in the proper sense) *F*. From this several impossibilities follow. Either (i) there are now two Forms of *F*-ness (the original Form of *F*-ness and the third Kind which likewise is *F*), which is impossible, or (ii) the Form of *F*-ness has somehow changed, now being both itself and the third Kind, so contradicting Plato's unwavering claim that Forms "never in any way in any sense undergo any alteration" (*Phd.* 78d6–7) and entailing that the Forms "come to be" with respect to what they are. Furthermore, (iii) the expression "*x* comes to be *F*" signifies, in this case, "*x* is *F*," with the result that Plato's distinction between being and becoming collapses. The point of Plato's language of participation, presence, and coming-to-be is precisely to maintain the so-called separation of the Forms which their reception in the third Kind would abolish. The only way to escape these consequences is to deny the premise that the concepts "receiver" and "that in which," applied to the third Kind, can be explicated by reference to the discussion of Forms and particulars in the *Phaedo*, claiming that the sense of these concepts in the *Timaeus* is unique to the *Timaeus*. I do not think that such a claim can be demonstrated without circularity, that is, without assuming that "reception" in the *Timaeus* does not have the entailments I have mentioned, or without assuming that the metaphysics of the *Timaeus* is unique to the *Timaeus*.

In what sense can the third Kind be said to *be*?

The third Kind is neither coming-to-be *F* (the second Kind) nor being *F* (the first Kind); this suggests that it ought to be impossible to say that it is anything at all. On the other hand, the third Kind "receives" coming-to-be or is the "that in which" for coming-to-be; this suggests that it ought to be possible to say that it is something, in some sense. It seems as though Plato is making the paradoxical claim that the third Kind both is and is not something. Plato, too, recognized the problem, admitting that it is a kind of thing that is "difficult and obscure" (49a3), scarcely intelligible (51b1). I want, then, to address the following question: in what sense, if any, does Plato claim that the third Kind is something?

I have argued above that Plato's conception of the third Kind is, in a sense, derivative from his conception of the original second Kind distinction as "that

which comes to be *F*.” Therefore, to answer the question now posed one must begin with Plato’s account of how physical, sensible things are something. There is, of course, considerable debate about Plato’s view on this matter. Code 1988 writes:

I do agree with [M.] Frede [1988] that Plato thinks that strictly speaking, ordinary objects of experience never *are* anything. Consistently with this, however, he [Plato] can maintain that they *are F* in some other sense. Hence, although what is coming-to-be *F* will never *really* be *F*, it can none the less, once it has come to be *F*, temporarily be *F*, though of course not *really be F*. . . . The sensible *F*s, being subject to change in every respect, are never *F* without qualification, for what is *F* without qualification could never change with respect to *F*-ness. Thus, the fact that the sensibles are subject to change in every respect explains why, once a sensible has come-to-be *F*, it none the less is not really *F* (though it is, to be sure, *F*). (54)

Code argues for the claim that although Plato does not think that the objects of experience, what I have been calling “physical things,” are really *F*, Plato does think that things are *F* in a sense, and this fact is represented by the expression “comes to be *F*.” Code (like M. Frede 1988, 50–52) does not think that “being *F* in a sense” amounts to a claim that particular things have “essences or essential natures” (53), so it is not by virtue of an essential nature that things “are *F* in a sense.” Code suggests that a sensible “is *F* in a sense” by temporarily having come to be *F* or by being *F* while remaining subject to change with respect to *F*. He also recognizes that the *Timaeus* suggests a sense of coming-to-be that is an ongoing process (54). I do not think, and I suspect that Code does not think, that the *Timaeus* account of coming-to-be is necessarily opposed to the view that something “is” *F* as having come to be *F* temporarily. For instance, once a wall has been painted white, Plato could say that the wall “is” white – meaning that it has “come to be” white temporarily – and at the same time he could hold that the wall “is” white because the constantly changing material bits on the wall continue to affect our visual rays such that we consider the wall to be white, which would mean that “being” white is actually a process. This latter sense of coming-to-be is the sense relevant to the distinction of the three Kinds, as I have argued.

Let us grant that a physical thing “is” something in the sense that it “comes to be *F*” where coming-to-be is an *F*-directed process of change that is not random but proceeds towards a definite end, *F*-ness. When we say that “*x* (a physical thing) is *F*,” we do so because, and in so far as, we recognize the *F*-ness towards which a thing’s process of change proceeds. To put this in the more static idiom of image and paradigm, when we say that “*x* is *F*,” we do so because we are cognizant of the paradigm *F*-ness that is being displayed in or by a thing which we accordingly regard as an “image.” So, as far as we are concerned, our claim that “*x* is *F*” reflects our awareness of the *F*-ness manifested by a thing. But Plato

does not limit his claim about things to how they are to us. Plato thinks that a physical thing “is” some *F* just in so far as its various levels of parts undergo *F*-directed change.

If this is Plato’s account of what it means for a physical thing to “be” something, at least as far as the *Timaeus* is concerned, and if the third Kind is distinguished from the second by separating off “coming to be *F*,” then it is straightforwardly the case that the third Kind cannot be said to “be” anything at all, since whatever it could be said to “be” would go with the *F* belonging to “coming to be *F*.” Plato, in fact, does think that the third Kind neither “is *F*,” properly speaking, nor “comes to be *F*; therefore it is not *F*. Even so, Plato does not think that this entails that the third Kind simply “is not,” although he seems to recognize that this ought to be the case. At the heart of the distinction of the third Kind lies the claim that there must be another way of *being* besides “being *F*” and “coming to be *F*; this other way of being is not being a physical thing and is not being a Form, and there no hint that it is what we call “existence.” What is this third way of being?

The third way of being is, perhaps, “to be a cause of coming-to-be,” where “cause” remains to be specified. I mentioned above that when several kinds and a final γένος are enumerated in the *Republic* and the *Philebus*, the final kind stands in a special relation to the others, a relation of cause.³² I shall now argue that in the *Timaeus* Plato conceives the third Kind to be a cause as well. At 28a4–6 Plato states unequivocally that, “All that which comes to be necessarily comes to be by the agency of some cause, for it is impossible that any should have coming-to-be without a cause.”³³ The cause Plato proceeds to introduce is the Demiurge’s use of Form paradigms. But when Timaeus’ discourse treats the various bodies whose motions and changes are regulated by soul the need for a quite different kind of cause of coming-to-be is recognized. Actually Plato thinks it necessary to introduce at this point more than one kind of cause, which adds yet more obscurity to this obscure section. In the beginning of the next chapter I shall discuss the cause called “wandering” (48a7), which refers to the causal action of the Receptacle. What the kind of cause that the third Kind is becomes evident in an analysis of a thing that comes to be. I have argued above that whatever a physical thing “is,” it is by “coming to be *F*.” But Plato distinguishes the third Kind as that which receives coming-to-be or that in which coming-to-be occurs. This suggests that Plato thinks that coming-to-be requires a “receiver” or an “in which” and that it cannot occur without this. In the *Phaedo* Plato calls this kind

32 My tentative claim that Plato conceives of being a cause as another way of being might be supported by the fact that Intelligence in the *Phlb.* and the Demiurge in the *Tim.* seem oddly to occupy a position outside of or separate from the Forms and what comes to be.

33 The claim is repeated at 28c2–3. Cf. *Phlb.* 26e2–4. “See if you think that it is necessary that all the things that come to be come to be because of some cause.”

of cause, which he wishes to distinguish from a proper cause, “that without which ($\epsilon\kappa\epsilon i\omega \alpha\nu o\omega$) the cause would not be a cause” (99b3–4); we might call this a “necessary condition.” I am not suggesting that Plato has the *Timaeus*’ third Kind in mind in the *Phaedo*. I am suggesting that the third Kind has the causative role of being a “that without which” coming-to-be could “not” occur. Accordingly, the Receptacle will be a “that without which” Demiurgic activity could “not” be the “proper cause” of elemental coming-to-be.

It is difficult to say what the third Kind *is* beyond having this causative role for the reason that neither “being *F*” nor “coming to be *F*” can be attributed to it. Although Plato recognizes this, he feels he must try to say more, but the more he says, the more he seems to say that the third Kind is something (*F*) after all. For example, he says, “What nature and power must we suppose it to have? This especially: the receptacle of all coming-to-be” (49a4–6). Something, or a Kind, that has a “nature and power” would certainly seem to *be* some *F*. But I think Plato has quite consciously put himself in a bind here. To explain to us his conception of the third Kind he must resort to language that, if taken strictly, will serve to make the third Kind even less intelligible. So, when he says that the third Kind is a receiver of coming-to-be he is, on the one hand, saying that it *is* something, just as a vessel *is* something, but clearly his intention is to convey to us the relation that the third Kind has to coming-to-be, not to claim that, after all, it is identical to the first or second Kind, as being something.

In sum, then, whatever the third Kind can be said to *be* it is in relation – a kind of causal relation – to the second Kind. This relation is to be that without which coming-to-be cannot occur. Plato attempts to say more about the relation of the third Kind to the second by claiming that coming-to-be is “received” by it and occurs “in” it. But this does not define for us any further what the third Kind *is*.

Why does coming-to-be require a receiver?

If it be granted that the third Kind is that without which coming-to-be could not occur, why does Plato wish to claim that coming-to-be is not only causally dependent on the Forms to which it is directed but also on that which receives it? Why does coming-to-be *require* a receiver, or subject? The answer must lie in how Plato conceives of coming-to-be. In Plato’s conception coming-to-be is a dependent state of affairs. Although coming-to-be is here considered as a metaphysical distinction, Plato always associates coming-to-be with the state of physical things. In physical things coming-to-be is manifested as motion (or, change: $\chi\iota\nu\eta\sigma\iota\zeta$). One may say, putting aside theories of particle physics, that there can be no motion if there is no subject that is moved, that is, a body. So motion is a state of affairs that is ontologically dependent on body. Reversing Plato’s usual perspective of the metaphysical being a paradigm for the physical, we might say

that the relation of motion to body serves as a conceptual paradigm for the relation between coming-to-be and the third Kind. Coming-to-be, like motion, is a dependent state of affairs that requires a subject, a “receiver.”

The *Timaeus* often favors the analogy of paradigm and image. The first Kind is the paradigm, the second is the image of the paradigm. But an image, strictly speaking, is just a likeness of something and nothing more. Take for example an image of Henry VIII. As just an image no one can view it. It can be seen only if it is a painting or a statue or wood carving, and so forth. Strictly speaking, then, there are no visible, tangible images in the world but only things bearing images; the image requires something that it is in or on. To claim, as Plato does, that physical things are images of paradigms, carries with it the claim that there is something conceptually distinguishable that bears the image. An image thus conceived is an analogue of coming-to-be *F*, while the bearer of the image is an analogue of the third Kind. The dependency relation exhibited by these analogies suggests that Plato conceives of coming-to-be as properly inseparable from the that in which it occurs.

Chapter One attempted to show, among other things, that Plato’s discussion of the Receptacle is complicated by the fact that it appears to be treated both as a metaphysical distinction and as part of the physical world. In this chapter I have investigated Plato’s metaphysical claims. I have argued that we must take Plato’s talk of “kinds” seriously. The third Kind is in fact a kind, which entails that it has members. This means that we are to distinguish conceptually between the third Kind, which is a metaphysical distinction, and the Receptacle, a member of this Kind that belongs to the physical world. To so distinguish the kind from its member helps to clear Plato from the charge that he has given us a muddled account that confuses physical and metaphysical claims. I think that Plato’s distinctions concerning the third Kind are largely preliminary to the real business at hand. These distinctions are meant to prepare us for his elemental theory, not for further metaphysical speculation.³⁴ Plato’s elemental theory, which will be directly and indirectly examined in Chapters Three and Four, attempts, among other things, to support the claim that an element is something that both “is” some *F* (that is, stands in the appropriate relation to the Form of *F*-ness) and is always changing. For the objects of common experience this would not seem problematic: Socrates can be human while undergoing bodily change. But an element by Plato’s account “is” just one *F*, that is, possesses just one essential property or

³⁴ I do not mean to deny that the third Kind is a philosophically fertile concept to which Plato may have considered linking other metaphysical concepts and claims, such as participation (note the term Aristotle uses: τὸ μεταληπτικόν that capable of receiving, or the participant [*Phys.* Δ 2. 209b12–13, 14]). I claim only that here, in the *Tim.*, Plato introduces the distinction of a third Kind for a specific purpose; that purpose is my chief concern.

stands in essential relation to just one Form. If it changes, it ceases to be *simpliciter*; in this sense it is analogous to a Form. If it ceases to be *simpliciter*, it cannot come to be something else, but this is precisely what it does in Plato's view. As the solution to this puzzle, and to other puzzles as well, Plato proposes the Receptacle. The metaphysical distinctions concerning the third Kind are meant to establish a conceptual framework for the account of the Receptacle and elemental coming-to-be to follow.

Chapter III

ἡ γὰρ Ἰσίς ἔστι μὲν τὸ τῆς φύσεως θῆλυ,
καὶ δεκτικὸν ἀπάσης γενέσεως, καθὸ τιθῆνται
καὶ πανδεχής ὑπὸ τοῦ Πλάτωνος, ὑπὸ δὲ τῶν πολλῶν
μυριώνυμος κέκληται, διὰ τὸ πάσας ὑπὸ τοῦ λόγου
τρεπομένη μορφὰς δέχεσθαι καὶ ιδέας.

(Plutarch, *De Iside et Osiride* § 53. 372 [527.15–19])

The Text

In Chapter Two I argued that the metaphysical claims made in Plato's discussion of the Receptacle concern the third Kind. The purpose of these metaphysical claims is to establish a conceptual framework for the discussion of the member of the third Kind that is needed for Plato's account of elemental coming-to-be, that is, the discussion of the Receptacle. Unfortunately, what Plato says about the Receptacle is famously obscure and open to very diverse interpretation. In what follows I shall comment on each stage of the passage and try to render more intelligible the argument of the whole. My conclusions about Plato's account of the Receptacle must await consideration of the Receptacle's role in elemental coming-to-be, the subject of Chapter Four.¹

Transition: motion and causation

Soul, in Timaeus' account, is a complex of circular motions produced by the Demiurge, or Craftsman. Soul as a whole is interwoven with body as a whole and particular souls with particular bodies, that is, living bodies. Because a body is maintained by a continual influx and efflux of elemental material Timaeus compares its changing composition to a river into which a soul's ordered complex of circular motions are immersed: "The circular motions, bound up in a great river, did not master <the river> nor were they mastered <by it>, but by force were carried along <by it> and carried <it> along, with the result that the whole

¹ I would invite the reader to review the compressed versions of the argument of 47e3–53c3 provided in the Introduction, pp. 11–15. Because I must treat the text in detail the form of the larger argument may easily escape notice.

living being moved, but proceeded wherever it happened to go in a disorderly and unreasoning way (ἀτάκτως . . . ἀλόγως) with the six motions" (43a6–b2). But the "river" of influx and efflux is not the only disruptive motion with which soul has to contend. Soul is also affected by impacts of external bodies that reach it through the senses: "As great as the wave was that crashes in and flows away, so providing nourishment, even greater disturbance was caused by the impacts of (external) things that struck against each (living being)" (43b5–7). Embodied soul, in individual cases, may succeed eventually in controlling these constant assaults on its own motions, or it may not. In any case particular souls are locked in struggle with motions produced by bodies. This somewhat dire state of affairs parallels, to some degree, a claim about the motions of bodies and the causes thereof. Plato recognizes two opposing kinds of motion: one ordered and ultimately directed by the intelligent Demiurge and one that is not. The existence of the world as we know it testifies to the victory of the motions directed by Intelligence (by "Intelligence" I mean the Demiurge, conceived of as an agent which acts solely on the basis of what intelligence determines) over the random and disordered motions.

These opposing kinds of motion are referred to when Timaeus draws a distinction between two kinds (*γένη*) of causes: causes properly speaking and auxiliary causes (46d1–e6; cf. 68e6–69a5). Causes properly speaking (*αἴτια*) are stated to be those which pertain to "intelligent nature" (d8), which apparently is soul that possesses intelligence (*νοῦς*: d5–6). These causes are "producers (lit. craftsmen), in company with intelligence, of things that are beautiful and good" (e4). The proper causes are presumably the works of souls directed by intelligence that views the Forms so as to produce what is rightly ordered. Auxiliary causes (*συναίτια*) serve as auxiliaries to Intelligence's intentions to produce what is best (c7–d1). Such causes "make (other things) cold or hot or condense (them) or disperse (them) and other such (effects)" (d2–3); they are "moved by other things and move still other things by necessity" (e1–2); although they should not be considered as primary in causal accounts, most people do so consider them (d1–2). Physical processes, however, do not stand in a necessary relation to Intelligence. It is conceivable that they might function independently of Intelligence's intentions, in which case they would no longer be "auxiliary" causes but would produce rather different effects, random effects: "once isolated from intelligence they effect what is random (and) disordered (τὸ τυχὸν ἀτακτὸν) on every occasion" (e5–6). Plato is claiming, then, that if Intelligence, through the intermediary of soul or otherwise, were not somehow present as a cause, guiding physical processes, the results of such processes would be haphazard and possess no order; such results could not serve Intelligence's intentions. In fact this never occurs: in Plato's cosmos Intelligence is always causally present. But it remains of considerable importance to Plato that physical processes are not inherently or necessarily orderly; they are so only by virtue of the intervention

of Intelligence. Plato, then, proposes two kinds of causation, or causal agency: proper causation, whereby soul brings about Intelligence's intended effect directly; and auxiliary causation, whereby physical processes or activities bring about effects as a result of Intelligence's arrangements.

Plato seems to be committed to the claim that order can only be a product of intelligence. His reason for this commitment is presumably that order involves the incorporation or realization of form. But form, for Plato, is something of which only intelligence is aware. If form is to be realized in activities or structures, it cannot be by chance or brute process but only when intelligent agency is the cause, directly (proper causation) or indirectly (auxiliary causation).

Among the many reasons Plato has to claim that an ordered system, e. g., the world, must be the effect of an intelligent cause is his polemic against materialism. This polemic is in evidence in Socrates' autobiography in the *Phaedo* where Socrates rejects causation that does not recognize intelligent agency (99a4 ff.). The view to which Plato seems to oppose himself is best represented in a passage in the *Laws*:

They say that fire, water, earth, and air, all of them, exist by nature and chance, but none of them by craft, and that through these <elements>, which are completely bereft of soul, the bodies that come after <exist>, <saying this> about the earth, sun, moon, and stars. <They say that> each one of these <bodies> is carried about by the chance that belongs to the force ($\delta\omega\mu\pi\epsilon\omega\varsigma$) of each one in that <place> where they happen to have come together, somehow appropriately fitting <one another>; hot with cold, dry with moist, soft with hard, and <simply> all, as many as have been mixed together according to chance by necessity in the mixture of opposites. In this way and on this wise <they say that> the entire heaven and whatever is in heaven, all animals and plants, have come to be . . . but not through Intelligence or some god or through craft, but what we said: by nature and chance. (889b1–c6)

According to this view – which Plato seems to be at no pains to explain – everything in the world and the world itself came to be by the chance encounter of elemental bodies which aggregate into larger bodies, and so on. The elements “mixed together according to chance by necessity in the mixture of opposites”; soul, intelligence, and “craft” have no causal role at all in the formation of the world. Plato, on the contrary, holds that soul, intelligence, and craft have the ultimate and determining causal role. As an argument in support of his view Plato equates brute process – which he calls “nature” in the passage from the *Laws* (889c6), a quite unAristotelian usage – with chance. The materialist view, as Plato represents it, attributes to body the power of self-organization. But this, Plato thinks, is absurd. One must distinguish between the causation for which Intelligence and soul are responsible and the causation of body stripped of the effects of Intelligence and soul.

Plato, then, suggests that a fact about body is that its actions and interactions are separable from every principle of order. They are separable because order is

an effect of Intelligence and Intelligence is separable from body. This is established in part by the claim that in the precosmic state, where Intelligence was absent (cf. 53b3–4), everything “was being moved out of tune and disorderly” (30a4–5; cf. 69b3–4). In the pre-cosmos, body, left to its own devices, acted and interacted in a purely random fashion. This suggests that either (a) body (or, more generally, material substance) has an inherent tendency to disorder or (b) body has no inherent tendency either to disorder or to order. Middle Platonist and some more recent interpretations of the *Timaeus* and other dialogues ascribe to Plato claim (a),² making material substance a cause of disorder, and so the absence of good (see *Grg.* 506e2–4 on order and the good), and so a cause of evil. The fact, however, that body is unable, on its own, to produce ordered results does not necessarily entail that it has an inherent tendency to produce disordered results. Plato holds that body acts, and interacts, by virtue of what he calls “Necessity.” As I shall argue below, Necessity is the requirement that, if a body has such and such properties, it will “necessarily” act in such and such ways. So a precosmic, randomly composed body will act in a disordered way, but a body that has an ordered set of properties will act in an ordered way. So body as such, i. e., as possessing no particular kind of composition, has no inherent tendency to act in the one way or in the other (= b).

Necessity and persuasion

At 47e2–3 Plato rather abruptly concludes a discussion of the beneficial effects of seeing and hearing and begins his lengthy account of the generation of body, both out of a theorized pre-cosmos and as it now comes to be. In a famous metaphor Plato says that ordered body comes to be as a result of the persuasion of Necessity.

The foregoing, except a brief (digression), has presented the (things) that have been crafted through intelligence, but now the (things) that have come to be through necessity must have a comparable account. The coming-to-be of this world [or, ordered state, cosmos] is a mixed (affair), it being born of an alliance of necessity and intelligence, as intelligence rules over necessity by persuading it to lead toward the best the most part of the things that come to be. In just this manner, through necessity being overcome by wise persuasion, this whole of things came about in the beginning. (47e3–48a5)

The “persuasion of Necessity” is a suggestive metaphor. What does it mean? And what is Necessity? Many suggestions have been made as to what Necessity is. For example, Grote 1888, 238, suggested that it is “random, indeterminate, chaotic, pre-existent, spontaneity of movement or force.” Archer-Hind 1888, 166,

² See esp. Vlastos 1939.

suggests that “necessity” refers to “the sum total of the physical laws which govern the material universe,” and by “physical laws” Archer-Hind means the “proper impulse” of “nature’s forces” as illustrated by the fact that hay will burn “by necessity” when in contact with fire. Taylor 1928, 301, thinks that “necessity” is “those conjunctions for which we can see no justification in the form of a valuable result”; it is “brute fact.” Somewhat along the line of Archer-Hind Strange 1985, 34, suggests that “reason persuades Necessity by producing the proper ordering of the mechanical causes to give the best result.” Cornford 1937, 162–77, rejecting the view of Archer-Hind, argues that it is “the chaotic and disorderly” in the world, for the world “contains motions and active powers which are not instituted by the divine Reason and are perpetually producing undesirable effects” (176). Morrow 1950 argues, apparently against Cornford, that “necessity” is the “materials” of which things consist “and their inherent powers” (152) which need not be chaotic since Intelligence only brings out what lies within things (161).

Grote’s and Cornford’s interpretations apparently identify Necessity with the “wandering cause” (*πλανωμένη αιτία*) which they think is a source of disorderly movement: “Therefore if one will truly say how *(the Whole)* came into being in this context, the kind (*εἰδος*) of the wandering cause, how it naturally moves (*φέρειν*) *(things [?])*,³ must also be mixed in” (48a5–7). The text does not suggest that the “wandering cause” is identical to Necessity. It says that to explain the generation of the cosmos one must discuss the alliance of Intelligence and Necessity, and further (“also”) consideration of the “wandering cause” must be mixed in to the account. To determine what the relation is between Necessity and the “wandering cause” we need to know what each are. Plato does not trouble himself to tell us what the “wandering cause” is, but the meaning of “Necessity” is not difficult to get at. “Necessity” in the present passage very likely refers to what is covered by the term “auxiliary cause,” as Archer-Hind and others have suggested.⁴ Auxiliary causation is physical processes that serve Intelligence’s intentions and exert a kind of “necessity” (46e1–2). Necessity works for Intelligence, not against it.⁵

³ Cornford 1937, 160 n. 2, argues that the sense of *φέρειν* must be active if it is to be a “cause.” This seems right, but the precise sense of *φέρειν*, whether it moves itself, other things, or just moves in some general sense, must remain unclear until it is determined what the “wandering cause” is. Therefore I think it best to translate this phrase as “how it naturally moves.”

⁴ Note that Archer-Hind (167), too, identifies Necessity and the “wandering cause,” arguing that “though working strictly in obedience to a certain law, it is for the most part inscrutable to us as if it acted from arbitrary caprice.” To unpack “wandering” by reference to inscrutability to us seems rather far-fetched.

⁵ Cf. Easterling 1967, 28: “In fact *νόος* and *ἀνάγκη* appear not as two opposing forces in direct confrontation; rather they form a partnership (though the co-operation between them is limited) in which *νόος* is the senior and more important partner.”

Necessity, then, should be something that can serve Intelligence. A chaotic, indeterminate force could not be such a thing. On the other hand, something whose effects are certain could serve Intelligence. Let us say that "Necessity" indicates that things, given the physical properties they have, *must* act in certain ways and not in other ways. It would follow that, if a thing acts by virtue of Necessity, Intelligence could determine what its action will be on the basis of what properties it has. Furthermore, if Intelligence has the power to fix the properties of things, it can construct things that will act in ways that suit its plans. Accordingly, Plato posits the existence of a precosmic chaotic state devoid of the influence of Intelligence. In this state there are only random aggregations of randomly composed bodies; these aggregations will possess a random collection of properties. Necessity requires that the actions of such aggregations will be disorderly and random. Such a state of affairs cannot be of use to Intelligence if Intelligence intends to produce an orderly world. So Intelligence must impose order on the chaos and it does so by the generation of soul and the production of regular elemental bodies that will combine in a regular fashion. This produces a state of affairs from which Intelligence can expect ordered results because Necessity will require such results. At this point the force of the metaphor of persuasion becomes evident. Persuasion presumes that the persuader, in this case Intelligence, has some end in view. Persuasion would then be applied in order to achieve this end. But if this end is to be achieved it must also be the case that the subject of persuasion be capable of being instrumental towards the end and be susceptible to persuasion. One cannot, for example, persuade an insect, an irrational animal, but humans, granting that they are rational beings, can be persuaded. Necessity in the disordered state of affairs of the pre-cosmos could not serve any end and would resist any employment, or "persuasion," by Intelligence. But once Intelligence brought about the ordered motions of soul and the structured elemental bodies, Necessity (now producing orderly effects) could serve the designs of Intelligence. Plato's analogy is, of course, what a craftsman does. Let us say that a craftsman is hired to build a fireplace. To construct the fireplace the craftsman must have access to materials that will remain stable while being heated by fire as, for instance, bricks. Bricks by themselves cannot become a fireplace; they must be fixed in a particular order with mortar under the direction of the craftsman. In this analogy "Necessity" is represented by the shape and composition of the bricks; "persuasion" is represented by the craftsman placing the bricks in a certain arrangement so that they will accomplish the chosen function.⁶ The fact that the bricks will not exhibit other properties than those for which they are selected is essential to the building of the fireplace. In the language of the *Phaedo* (99b3), the fixedness of these properties (Necessity) is a "that without

6 Cf. Lennox 1985, 210: "The necessary causes in the *Timaeus* are always the inherent necessities possessed by the materials at hand, used or persuaded by divine intelligence . . ."

"which not" for the accomplishment of the intentions of the craftsman (cf. *Tim.* 69a2–3).

When Plato says that Necessity is "persuaded" by Intelligence, he does not mean that Necessity is being compelled to produce *different* effects than it otherwise would, but that it is being directed to produce *those* effects that Intelligence intends. Intelligence – the Craftsman or Demiurge – has the intention to produce a world that is the best it can be (29e1–3). Therefore Necessity is persuaded, in the sense just stated, "to lead"⁷ toward the best the most part of the things that come to be" (48a2–3). When Plato tells us that he is now going to treat "the (things) that have come to be through necessity" (47e4–5), the things that Necessity "leads" to come to be, he means that he is going to treat the coming-to-be of what Intelligence produces with the help (as an auxiliary cause) of basic materials whose physical properties have been fixed. But to proceed to the generation of these things Plato must first treat the production of the basic materials that Intelligence will employ. The basic materials are the elements, earth, air, fire, and water. Plato must, therefore, explain their origin, that is, how Intelligence first produced them, as he says, "one must investigate the nature of fire, water, air and earth before the coming-to-be of the world and the qualities ($\pi\acute{a}\theta\eta$) (they had) then" (48b3–5).

But what of the "wandering cause" and its relation to Necessity? Plato says that "the kind of the wandering cause, how it naturally moves, must also be mixed in" (48a6–7). Necessity is the fixed properties that things have which necessitate certain outcomes. If Necessity and the "wandering cause" were identical, it would seem that Necessity must "wander" in some sense. This does not seem very plausible. If they are not identical, one might think that the "wandering cause" is a cause of wandering, that is, of random movement. This interpretation understands the participial adjective "wandering" to refer primarily to the effects the cause produces rather than to the nature of the cause itself. Now if these effects are what Plato had in mind, why would it be "necessary to mix in" such a cause? Does such a cause, i. e., a "wandering" cause, play a significant role in Intelligence's world? Apparently not, because we see, for the most part, an ordered state of affairs (a "cosmos"). The *Timaeus* is precisely Plato's attempt to give an account of a world ordered for the best, a world where very little occurs randomly. It does not seem likely, therefore, that the "wandering cause" is a cause of wandering or random motion. Another possibility remains. Although Necessity and the "wandering cause" are not identical, the "wandering cause" might be a cause of motion that Intelligence puts to work for its purposes. If so, the "wandering cause" would be an "auxiliary cause" and, as such, fall under the heading of Necessity. What is this cause? I suggest (and I shall return to this below

⁷ Lennox 1985, 210, rightly notes the significance of the fact that the subject of "lead" is Necessity, not Intelligence.

pp. 150–53, treating it in greater detail) that the “wandering cause” is a factor in what Plato calls the “shaking” or “winnowing motion” of the Receptacle. If this is what Plato refers to under the expression “wandering cause,” it acts as a form of Necessity that serves Intelligence. Under this interpretation the words “the kind of the wandering cause, how it naturally moves, must also be mixed in,” refer to the forthcoming account of the Receptacle and how it shakes. If this is right, the expression “wandering cause” may be better rendered as “the cause that wanders.” But if this is not right, we must, I think, saddle Plato with the charge that he does not follow his own lead, that is, having declared that this cause must be dealt with (“mixed in”) he does not deal with it.

Interpretation of the Pre-cosmos

Since antiquity there has been debate over what Plato means when he refers to a precosmic state.⁸ Did he hold that the world actually had some sort of beginning – thanks to a Demiurge – out of a pre-existent chaos, or did he use such reference as a technique to better explicate the world that now exists and has existed forever? As Aristotle notes with dissatisfaction (*Cael. A* 10. 280a28–32), Plato says explicitly that the world both “came to be” (28b7) and from thenceforth exists everlasting (37d1–7). How is this to be interpreted? Is Plato to be taken at his word, literally, or is the account of the pre-cosmos just a didactic story, a myth?⁹ The latter view is most widely held because it would excuse Plato from several rather serious lapses. This view is eloquently stated by Simplicius in his commentary on *De Caelo* as follows:

It seems that [Aristotle's] statement [in *Cael. A* 10. 279b32 ff] is directed especially against Xenocrates and the Platonists, for they say that the world came to be out of what was disordered and out of tune, because Plato says, “Taking over everything that was visible – which was not leading a quiet existence but was being moved out of tune and disorderly – out of disorder he brought it into order” (30a4–5). These men, therefore, said that the world had a beginning and is indestructible. One need not, they say, understand its coming-to-be as taking place in time, but as being said by way of a supposition for the sake of giving instruction about the arrangement of the things in the world that are both more rudimentary and more composite. For since the things in the world are either elements or what is composed of the elements, it is not easy to know the difference between them and how composites arise out of the more simple unless one conceptually (*éπινοια*) analyzes composites into simples and investigates

⁸ For an overview of the debate from antiquity till the end of the 19th century see Baeumker 1887; see also Phillips 1997.

⁹ Vlastos 1939, 1964, argues for a literal interpretation; for the “mythological” interpretation in support of Chemiss – see Tarán 1972.

how, if the simples were strictly simple at the beginning, composites would have arisen from them, just as when the mathematicians are investigating the nature of diagrams they analyze composites into simples and look to see how they would have arisen from them if they had come to be from a beginning. (303.34–304.12)

The Craftsman's intervention into a chaos is a "supposition for the sake of giving instruction": that is, Plato does not claim that a Craftsman actually produced the world in this manner, but rather uses the "myth" to express the causal order inherent in the world.¹⁰ The literal reading also has much to recommend it.¹¹ For example, it is hard to accept that Plato's talk of a Demiurge, or Intelligence, has only the weight of a myth. The existence of a cosmic Intelligence that had a role in the ordering of the world is present in much of Plato's thought and cannot easily be dismissed, although it is far from obvious what Plato understood this Intelligence to be.¹²

It is, however, unnecessary to decide whether the story about a pre-cosmos and a demiurgic intervention is a "myth" or a definite claim if one interprets the "myth" as making definite claims about the way things are. For example, one need not decide whether Plato thought a divine being ordered the world to determine that Plato views things as teleologically ordered, and further, that without this order the world would not be a world but a kind of chaos. On the other hand, we might accept that Plato thought that there "once" was a kind of pre-temporal pre-cosmos and still maintain the "supposition" view that order presupposes that order is something imposed by a cause on a disordered state. We may, then, intelligibly speak about the notion of a pre-cosmos without claiming that it actually existed or denying that it does not now, in some sense, underlie things. In short, the myth reading and the literal reading are not necessarily exclusive.

Literary artifice or not, Plato chooses to frame his account of the world as though the world came to be in a number of stages. Although Plato's purpose in introducing stages is, under any interpretation, to render his account more easily intelligible, he does not always indicate what stage he is discussing. Because it is quite important to determine the stage under discussion, Plato's lack of precision has been a cause of considerable controversy, as will become evident below.

¹⁰ Cf. Baeumker 1887, 529: "War aber einmal die begriffliche Ordnung innerhalb der einzelnen Bestandtheile der verursachten Welt in der Form eines zeitlichen Nacheinander dargestellt, so musste auch schon das ursprüngliche Verhältniss der Wirkung zur Ursache die zeitliche Form annehmen; mit andern Worten: die Verursachung der Welt musste als zeitliche Entstehung geschildert werden."

¹¹ On this see esp. Zeyl 2000, xx–xxv.

¹² For a recent discussion of Plato's conception of Intelligence (Mind) see Menn 1995.

The elements,¹³ the three Kinds, and the Receptacle

Above I have argued that in order to treat “the <things> that have come to be through necessity” (47e4–5) Plato must give an account of the basic materials whose fixed physical properties constitute the “necessity” Intelligence “persuades.” These basic materials are the elements. But what are the elements and how were they produced? These are the very questions that Plato now sets out to answer.

One must investigate the nature of fire, water, air, and earth before the coming-to-be of heaven [or, the world] and the qualities ($\pi\alphaθη$) <they had> then For at this time no one has as yet explained their coming-to-be, but as though we know what fire and each of the <other three> is we call them first principles ($\alphaρχάς$), placing them as elements [or, letters: $\sigmaτοιχεία$] of the Whole, even though this could not be appropriate to them and only a person who thought little about this would represent them even by the species of syllables. (48b3–c2)

The so-called elements are generally held to precede the existence of (by the literal reading), or are more rudimentary than (by the mythical reading), the world as we know it. This is in fact the case, but it is not the case that the so-called elements are the ultimate first principles of things, even if “first principles” refers to the most basic simple bodies out of which all the rest of body is constructed. If the word “elements” is the appropriate term for these ultimate constituents, and elements are like letters, then it would not be accurate to say that earth, air, fire, and water are even “syllables.” By the analogy of letters, syllables, and words, the so-called elements would seem to be at the compositional level of words. How this is the case will only become evident when Plato fully explains his theory of the elements’ generation.

$\Sigmaτοιχεία$ (elements) is Plato’s usual term for the letters of the alphabet. In the *Theaetetus* Socrates says that he thinks he heard certain people say that “the first as it were $\sigmaτοιχεία$, out of which both we and other things are composed, have no explanation” (201e1–2). Here the meaning of $\sigmaτοιχείον$ is clearly “basic component.” However Plato’s prime example of such components are letters that form, in combination, syllables ($\sigmaυλλαβαῖ$, 202e6 ff [lit. “that which is taken together”]). Apparently the theory heard by Socrates claimed that the “first components” of things are analogous to letters. The *Cratylus* gives many examples in which $\sigmaτοιχεία$ mean letters that form syllables, which in turn form words (e. g., 424e4–425a3). In the *Timaeus* Plato tends to avoid the term $\sigmaτοιχεία$ in favor of specific names, e. g., fire, or ($\piρώτα$) $\sigmaώματα$ ([first] bodies). Earth, air, fire, and water are not the simples in nature but are constructs formed of

¹³ Aristotle notes that before him only Plato treated “coming to be” and “passing away,” but he did so not “with respect to all coming-to-be but only that of the elements” (GC A 2. 315a29–32).

simples. As will become evident below, Plato's simples too are, in a certain sense, constructs. The desired account of the generation of earth, air, fire, and water (for convenience I use the term "elements" for them) must explain how they are formed from simples and, further, must explain the generation of these simples. To do this the new distinction of three Kinds instead of just two is needed because this distinction introduces us to the Receptacle. The Receptacle is the as yet unexplained entity that is needed for Plato's account of the coming-to-be of body in its simplest form. But the unexplained entity, Plato quickly informs us, cannot easily be explained, and he strives to provide, at best, a probable account of it (48d2–4) in keeping with the promise to offer a probable account of the world as a whole (29c4–d3).

Before proceeding to Plato's account of the Receptacle I wish to state my view on the reference of the term "body" in 49b3–53c3. The Receptacle is introduced by Plato because he thinks that the coming-to-be of the elements cannot be explained without it. The Receptacle is a necessary factor in elemental generation. The elements are the first perceptible bodies and constitute material out of which all other bodies are constituted. So Plato claims that the Receptacle is a necessary factor in the coming-to-be of body in general; by "body in general" I do not mean each and every body, but body in as much as it is derived from elemental constituents. In a derivative sense all bodies composed of the elements can be said to have a causal dependence on the Receptacle – "causal" in the sense that the Receptacle is a "that without which not" for the elements. So, when Plato says that body comes to be in the Receptacle, this does not imply, for example, that chairs come to be in the Receptacle, but only that the elemental bodies that ultimately compose chairs come to be in the Receptacle. The Receptacle is "that in which" the element fire, e. g., comes to be, a "that which receives" the coming-to-be of fire, and a "that without which" fire could "not" come to be. But more generally, because all other bodies are derived from the elements, the Receptacle is "that in which" body in general comes to be, a "that which receives" the coming-to-be of body, and a "that without which" body could "not" come to be. Plato's account of the Receptacle in 49b3–53c3 seems on a few occasions to vacillate between consideration of the Receptacle's role in the coming-to-be of the elements and its more general role in the coming-to-be of body as derived from the elements. This, as one might expect, adds to the obscurity of this obscure passage and has been the source of much interpretive dispute.

Observable Elemental Change

Plato begins his treatment of the Receptacle with an argument from observable elemental change which consists of three parts: (1) a description of elemental change; (2) the *tōtō* – *tō* *τοιούτον* distinction; (3) the Gold Analogy. This

argument examines an extreme case of change in order to claim that a distinction must be made between change and “that in which” change occurs. The change examined is that which we now observe, or might think we observe, in earth, air, fire, and water. The argument from change, then, is an argument based on how things appear to us, not on a claim about what the world was like at its origin. Natural speech attempts to make accurate determinations about things, but this proves difficult when what we perceive undergoes constant change; if the change is very radical, we can say nothing at all about things except that they are changing, or are just change.¹⁴ The argument from observable change makes the assumption that we can in fact speak about things. This, in turn, requires that our speech refers to something that is not undergoing constant change. This something is “that in which” the change takes place.

Elemental change, Plato thinks, exhibits radical change. It exhibits radical change because any change in what an elemental particle is brings about total change. Plato’s notion of elemental particles is of particular bodies that have a certain structure.¹⁵ Any change in this structure causes the element to become something else, namely, a different elemental body. This process will be discussed below. When we witness change in ordinary, perceptible bodies we can generally distinguish between a change and what undergoes the change. For example, we recognize that it is Socrates who was young but is now old. Accordingly we say, “Socrates is growing old.” But in the case of the elements it is unclear what changes; we cannot point to fire and say, “Fire changes into air,” because there is no longer fire at which we may point. This puzzle, Plato thinks, may help us to realize that, with regard to the elements, there is an essential factor in what the elements are that our senses fail to observe. In elemental change we observe change but we do not observe what it is that changes. What we do not observe is the Receptacle.

“It is necessary,” Plato says, “to start with a preliminary puzzle (*προ-απορηθῆναι*) about fire and the <elements that are> in conjunction with fire” (49a7–b2). Plato states the puzzle raised by observed elemental change as follows:

(49b3–7)

For it is hard to say – in such a manner that one uses a trustworthy and steady statement (*πιστῷ καὶ βεβαίῳ λόγῳ*) – with regard to each one of them which one should

¹⁴ See Plato’s reduction of the Heraclitean claim to this position in *Thet.* 157a8–b8, 160b5–c2, *Cra.* 439e7–440b4. Speaking accurately about something “brings it to a halt” (*Thet.* 157b7).

¹⁵ Plato just calls them “bodies” (e.g., 53c4) or “first bodies” (57c7). They are “first” and simple in the sense that they are the first and simplest *perceptible* bodies. Plato composes these bodies out of “triangles” that must be bodies in some sense, but are not perceptible bodies. On the “triangles” see ch. 4. Aristotle prefers the expression “simple bodies” τὰ απλά σωματα (e.g., *GC* B 3, 330b2, 331a6, *Cael. A* 2, 268b28–269a2; *Cael. Γ* 6, 304b27), perhaps as a rejection of Plato’s constitutive “triangles.”

say is really water rather than fire, and [in the more general case] which (of them one should say is) any one whatsoever¹⁶ rather than all and each severally. How exactly,¹⁷ then, can we say "this very thing" (*τοῦτ' αὐτό*)¹⁸ and what can we say about the (elements), having properly worked through the difficulty?

The problem presented by elemental change – which Plato describes in 49b7–c7 as constant (see below) – is that we cannot say absolutely that a particular element that we observe is, for instance, "fire" because it could in fact be any of the other elements or, in the sense that it could be any of them, it is all of them. This is so, he will claim, because they are always changing into one another. The fact of constant change causes a difficulty in how to speak accurately about the elements. Because Plato identifies the difficulty presented by elemental change as one of language, it is commonly held that his chief concern in the entire passage on elemental change is the proper use of language. Cherniss 1954, 128, argues, for instance, that 49c7–50b5 makes the following claims: the "phenomena cannot be distinctively denominated"; the "distinctive names" we do use are to be applied to a "phase of the phenomenal flux"; and the word "this" must refer not to a "phase" but to the Receptacle. According to Cherniss Plato argues for a revision of our faulty way of speaking about phenomena. Zeyl 1975, against Cherniss and others,¹⁹ argues that Plato is actually "defending our ordinary references to phenomena" (128). This debate, as useful as it is, loses sight of the fact that Plato does not describe elemental change in order to discuss how we should speak about phenomena but in order to arrive at a "more perspicuous" (49a7) conception of the Receptacle, which is a prerequisite for his theory of elemental structure. When, therefore, in the course of discussion of elemental change Plato says that we should not call fire *τοῦτο* but *τὸ τοιοῦτον* (49d5: see below), he is *not* recommending that we change or even keep our habits of speech but that we recognize something about the nature of fire. Once we have recognized that fire would be best referred to as *τὸ τοιοῦτον*, then we will, he hopes, have a better understanding of the Receptacle.

Plato's description of elemental interchange²⁰ is based on what he takes to be undisputed observation. Aristotle argues for elemental interchange;²¹ Plato

16 The Greek *ότιοῦν* means "anything whatsoever"; Plato, however, does not assert that we could call any element just anything, but that we could call any element by the name of any of the other elements.

17 The repetitive expression *πῶς οὖν καὶ πῇ* asks only one question; cf. *Lg.* 686b6.

18 The meaning of *τοῦτ' αὐτό* is somewhat obscure and disputed. Cornford 1937, 179, translates "this matter," referring to the puzzle just stated; Lee 1967, 2 n. 5, takes the same line. Zeyl 1975, 126 n. 7, thinks it refers to the Receptacle. It is much more likely that Plato here asks the very question which he will soon answer in 49c7–50a4: we cannot call what we see to be an element *τοῦτο*; "what" we can say about it is *τὸ τοιοῦτον*.

19 Especially Lee 1967 and Reed 1972.

20 Taylor 1928, 315, mentions that Plato's account is quite similar to several fragments of

does not argue for it but assumes that what he describes as the “appearances” are in fact what everyone, or at least knowledgeable persons, perceives.²² It is important to note that these are only the *apparent* facts; he does not seem to need a stronger claim for his argument. It turns out that he later denies – incurring Aristotle’s censure²³ – that all the elements really do change into one another: “What was said beforehand must now be more clearly declared. For all the four kinds (*γένη*) <of elemental bodies> seemed to have coming-to-be through each other into each other, not rightly appearing (*φανταζόμενα*) so” (54b5–8). Because of its singular construction out of right-angle isosceles triangles earth is exempt from the change described in 49b7–c7. Plato, then, claims only that the elements appear to change as described below; he seems to regard this weak claim as sufficient to establish the “puzzle.”

(49b7–c7)

First, we observe that which we have just now called “water” seems to us to stiffen and become rocks and earth, then (*δέ*) <we observe> this very same thing melting again and dispersing, <coming to be> wind and air; then the air, being overheated, <coming to be> fire; and then back again fire, being condensed and extinguished, returning again into the form (*ἰδέαν*) of air; and again air, gathering together and thickening, <coming to be> cloud and mist, then out of these, being pressed together more firmly, <we observe> flowing water; then out of water <we observe> earth and rocks again, <the elements> in this manner, as it appears, passing on coming-to-be to one another in a circular manner (*χύκλον*²⁴).

We observe the “very same thing,” that is, the very same clump of elemental bodies²⁵ becoming [different species of (see 57c7–d6)] water, then earth, then air, then fire, then air, then water, then earth. The elements appear to “be passing on coming-to-be” to each other “in a circular manner” unceasingly. For his argument Plato wants us to accept this description of observable elemental change. But do we ever observe such a thing? Although it is clear that we do not, it is also clear that these appearances could be produced under the right conditions. The processes Plato refers to are common ones. It may also be that Plato thought that changes occur more quickly on a microscopic level than on a macroscopic, visible level; if so, Plato may be saying that what we observe

Anaximenes DK13a5,7. Plato’s point here is not that the elements are alterations of a single basic element but that they are always changing into one another.

21 See *Cael.* Γ 6. 305a14–32

22 One might compare Aristotle’s use of “appearances,” which includes both observations and reputable beliefs (*ἔνδοξα*); on this see Owen 1961 and Irwin 1987.

23 See *Cael.* Γ 7. 306a3–21.

24 *χύκλον* is an accusative of manner (see Smyth § 1608). Cf. Aristotle *GC* B 4 331b2–3 “So it is obvious that the coming-to-be of the simple bodies will be in a circle (*χύκλῳ*)”

25 We cannot observe a single elemental body because of the limitations of the sense of sight.

to take place over an extended period of time may happen to a very small group of elemental bodies much more quickly. Plato does say that the aging process of an organic body occurs much more slowly than the loss of the elemental bodies that causes it (81c6–d4). Sextus (*M* 8.7 [105]), it may be noted, understood Plato to claim that bodies are never the same because of the speed at which their particles change: “Plato <said that only the intelligibles are true> because the sensibles are always coming to be and never are, since substance (οὐσίας) flows like a river, so much so that the same thing does not persist over two smallest periods of time and cannot be pointed at twice because of the speed of the flow, just as Asclepiades said as well” (cf. *Phd.* 87d9–e1, *Smp.* 207d6–e1). Though a thing might look the same, its “substance” – according to Sextus – changes so quickly that Plato will not allow that it is the same. How would Plato account for this speed of change? Plato seems to hold that speed increases as resistance decreases.²⁶ For this reason he says “that <elemental body> which has the fewest faces must necessarily be the most mobile (εὐχινητότατον)” (56a6–7); therefore fire, which has the fewest faces as being pyramidal, moves faster than the other elemental bodies.²⁷ Plato may think, then, that the smaller a body, the more quickly it moves because it is less impeded by the plenum that surrounds it. This implies that the smallest bodies, elemental bodies, move fastest, under normal conditions, and will be susceptible to the quickest changes.²⁸ Plato, however, does not say that elemental change is constant and fast only on the micro-level, but seems rather to claim that we observe the same change in the elements, which is to say that this change occurs on the macro-level as well. But with the exception of the sudden change of water to ice, we do not observe this. How, then, can he claim that we do? Plato seems to think that fast change on the micro-level may not appear to us to be fast on the macro-level, but the change is as he describes none the less.²⁹ So when Plato claims that we observe elemental change on the macro-level to be fast and constant he may mean that

26 At 63c1–4 Plato notes that smaller bodies will be moved more than larger bodies when equal force is applied to them. The reason for this seems to be that they encounter less resistance.

27 See 61e2–3 where Plato, with respect to elemental bodies, links the “fineness of the edges,” the “sharpness of the angles,” the “smallness of the parts,” and the “speed of motion” (*τῆς φορᾶς τὸ τάχος*).

28 Note the following parallel in Aristotle’s discussion of the elemental bodies. Against Empedocles Aristotle is arguing that the elemental bodies are things that come to be and perish: “For the smaller body is more readily perishable than a larger one. If, therefore, the larger body perishes in such a way as to be broken up into smaller <bodies>, it is reasonable that a smaller body will undergo this even more so. We observe that fire perishes in two ways: being quenched, which is being destroyed by its opposite, and dying out, by its own agency. <In these cases> the smaller is being acted on by a larger, and <the process> is *faster* to the extent that the <body [or, quantity of body]> is smaller” (*Cael.* Γ 6. 305a6–12).

29 My mention of “fast change” here has no direct connection to Plato’s discussion of “slow” and “fast” change in the *Thr.* (156c8–9), on which see M. Lee 2000, 73–76.

we could observe this, if we had the means, because that is really what is occurring.

Once we accept Plato's account, he can argue that the puzzle he raised earlier is indeed a problem. Given that elemental change is ongoing, unceasing, and quick, how are we to refer to something which is either coming to be water or else is ceasing to be water and coming to be air or another element, but never *is* water? If an element never *is* the one thing that it *is* (or, should *be*), what *is* it, how shall we refer to it? When we perceive water we in fact perceive a continuous change of "coming to be" water and "ceasing to be" water; by perception we isolate a stage of the process and then we call the object "water," referring in our minds to the Form of water towards which this process is directed. But if we are to speak accurately, the object of our perception is even now changing into another element and so we cannot "bring it to a halt" by a "trustworthy and steady statement" (*Tim.* 49b5; cf. *Tht.* 157b7) and say that it is "really water rather than fire" (b3); we cannot say that it is "that thing and not another" (d2).³⁰ But the fact that we do not speak accurately about what we call "water" is not the puzzle Plato wants us to reflect on. The puzzle is that even though the case is as he has described it, what we say is not actually wrong. How can it not be wrong? The answer to this is the solution of the puzzle. It is not wrong because, even though we may not be aware of it, when we say "this is water" we refer to something else beyond the process of change that we witness, and this something is the referent of our expression "this." So our speech is not inaccurate. The problem is that we fail to understand fully what our words refer to. Plato, as usual, says that the statement, "This (τοῦτο: the demonstrative pronoun) is water," is more accurately stated as, "This comes to be water." This corresponds to the formula "*x* comes to be *F*." With the aid of the puzzle Plato is trying to point out that what *appears* to us to be water corresponds to "coming to be *F*," while the "*x*" has somehow escaped our notice. Our statement "This comes to be water" is accurate, but we may fail to understand that "this" (the demonstrative pronoun) does not refer to what we see, to what appears to us, but rather to "that in which" the process of coming-to-be occurs, the Receptacle.

The τοῦτο – τὸ τοιοῦτον passage (49c7–50a4)

Perhaps no passage in the *Timaeus* has been examined more closely and more frequently in recent years than this passage. Controversy over its interpretation began with a provocatively entitled article by Cherniss: "A much misread passage

³⁰ Chalcidius paraphrases this state of affairs as follows: "Semper enim et sine intermissione ullius temporis fluunt haec quattor corpora, priusque ex conversione mutantur quam erunt cognominata, more torrentus inrefrenabili quodam impetu prouentis" (§ 325 [349.17–20]).

of the *Timaeus*" (1954). His careful reading of the passage was criticized by Gulley 1960, then defended by Lee 1967 and others; the interpretations of Cherniss and Lee were criticized again by Zeyl 1975, and the debate still continues. In the matter of interpretation of the Greek text I am essentially in agreement with Zeyl 1975 and 2000.³¹ Therefore in what follows no argument will be made against alternate readings of the Greek text suggested by Cherniss and Lee if such arguments have been already made by Zeyl.

The passage begins with a summary of the problem posed by the observed change of the elements.

(49c7–d3)

Thus as each one of these <elements> never appears to be the same, how will one not put oneself to shame if he firmly maintains about any sort of them (*ποιὸν αὐτῷν*) that any one at all is this one and not another (*τοῦτο καὶ οὐκ ἄλλο*)? One cannot.

The puzzle about the elements is that we are unable to say of any that it is "this and not another," and yet, as noted above, we feel that we should be able to say "this and not another" about elements. Plato will now suggest a term that accurately refers to what we perceive to be an element; by employing a new term he leaves the term "this" (*τοῦτο*) available for the Receptacle. When he employs two terms for what we usually refer to by one, he, in effect, distinguishes a member of the third Kind from a member of the second Kind. That is, he distinguishes two kinds of things ([i] that which, [ii] comes to be <F>) where he (and we) had distinguished only one ("that which comes to be <F>").

Plato continues:

(49d3–e7)

Rather, the safest course by far is that we determine that we shall speak of them as follows: that which we always see coming to be somewhere at one time and somewhere else at another time,³² as fire, <it is safest> on each occasion to call it, fire, not *τοῦτο* but *τὸ τοιοῦτον*, nor <should one call> water *τοῦτο* but always *τὸ τοιοῦτον*, nor at any time <should one call> any other <element>³³ anything, as though it is something having steadiness, <like> such things as we point out by using the expressions *τόδε* and *τοῦτο*, thinking that we are pointing something out. For the <element> flees, not waiting for the sentence³⁴ of *τόδε* and *τοῦτο* and *τῷδε* [for that (one)]³⁴ and any ex-

31 See esp. Zeyl 2000, lv–lxiv.

32 For the expression *ἄλλοτε ἄλλη*, see *LSJ*, s.v. *ἄλλη*. The expression occurs only here in Plato. The only contemporary examples are from Xenophon, where the locative sense is clear, e.g.: *ἄλλοτε ἄλλῃ τῆς χώρας ἐπήει, ὥσπερ οἱ νομάδες* "at one time he came to one region and at another time he came to another, like the nomads" (*Hell* 4.1.25.3). Lee 1967, 14, contra Cherniss 1954, 115, and followed by most, even Zeyl, argues for "in different ways at different times." It is doubtful that (e.g.,) fire can come to be "in different ways."

33 Taylor 1928, 317, points out the legal metaphor here.

34 This list of unsuitable terms corresponds to the list in *Thet*.157b3–5; in that list, however, there

pression that declares the <elements> are permanent things. So³⁵ <it is safest> not to call each one (*ἔχαστα*) <of the elements> "this" (*ταῦτα*), but concerning each one and all of them <it is safest> to call <them> thus: *τὸ τοιοῦτον* that is always going round in a similar fashion,¹⁰⁰ and in particular <it is safest to call> fire <what is> *τὸ τοιοῦτον* continually, and <likewise> every <element> whichever has coming-to-be.¹⁰¹

Among the many difficulties of this important, but disputed, text are three that I shall treat separately before discussing the text as a whole; I have indicated them as (i), (ii), and (iii).

(i) *ἄλλο* (d7). This is commonly taken to mean "anything else" (e. g., Cornford 1937, 179; Gulley 1960, 53; Zeyl 1975, 129; Gill 1987, 34). The assumption is made here that Plato quickly generalizes from the specific case of the elements to the general case of anything that comes to be or else to phenomena in general. It may be true that Plato thinks the *τοῦτο – τὸ τοιοῦτον* distinction is applicable to all things that come to be (*γίγνομενα*), but he has not argued for this here. The *τοῦτο – τὸ τοιοῦτον* distinction is made on the basis of the observed change of the elements. This change is both constant and cyclical; the elements, moreover, are conceived of as simple bodies, in the sense that they are not composed of other identifiable bodies. Other things do indeed change constantly, in the sense of gaining and losing constituent particles, but not cyclically; also, they are not simples but composites, composed of the elements. If *ἄλλο* is taken to mean "any phenomenon in general," then the words which begin this passage, "That which we always see coming to be somewhere at one time and somewhere else at another time," should refer to phenomena in general, and the following words "as fire" should mean that the element fire is to be understood only as a specific phenomenon. But if Plato's subject is phenomena and not the elements, he should not have said at 49b1 that it was "necessary to start with a preliminary puzzle about fire" and the other elements but "about what we perceive." Beyond Plato's emphasis on the fact that he describes only how we *observe* elements to change, he says nothing to imply that his subject is really the nature of phenomena. Plato's various statements of his theory of vision in the *Theaetetus* (156a2–157a7) and in the *Timaeus* (45b2–46b3, 67c4–68b8) suggest that he thought phenomena to be quite unstable *γίγνομενα*, but there is no evidence that he refers to such theories in this passage.

(ii) The words *άεὶ περιφερόμενον ὅμοιον* refer to the "circle" or "cycle" of change discussed at c6; *ὅμοιον*, an accusative of manner like *χύκλον ... διαδόντα* at c6, refers to the regularity of the circular change. Cherniss 1954,

is no dative, but only the genitive *τοῦ* (b4); cf., however, *Th. 160b9*. Some commentators recommend omitting *καὶ τὴν τῷδε*; its sense is certainly obscure. At any rate, given the difference in the contexts of the *Tim.* and the *Th.*, the significance of this correspondence seems to be only that change is so radical as to render our ordinary use of language impossible.

35 Taking *ἄλλο* as "progressive" (see Denniston, 21–22).

121, argues for a meaning “always recurring alike, i. e., always self-identical in its recurrences.” His interpretation of ὄμοιον, therefore, is key to his controversial claim that Plato wants to use τὸ τοιοῦτον not for the elements, nor even for phenomena, but for “self-identical characteristics.” περιφερόμενον simply means “go around” and need not imply “recur” (cf. Gill 1987, 44). Since the reference here is to how the elements “pass on coming-to-be to one another in a circular manner” (c7), a process Plato has been at some pains to describe, it is quite unlikely that ὄμοιον here means “alike” in the sense of self-identical. Cornford 1937, 179, recognizes the reference when he translates “has the same sort of quality *as it perpetually recurs in the cycle*,” but accepts (n. 4) Taylor’s interpretation of ὄμοιον as “as similar” (1928, 318). Taylor understands the neuter accusative singular to modify τὸ τοιοῦτον (“the this-like is perpetually turning up as similar” [318]), and explains the passage to mean: “similar qualities or groups of qualities are continually turning up in the course of ‘passage,’ and we are to give the names πῦρ and the like to these ‘similar’ without fancying that they are anything but similar ‘episodes’ in the unceasing passage” (319). Zeyl 1975, 139; 2000, 39, also adopts this meaning for ὄμοιον, translating the phrase thus: “... coming around like what it was, again and again.” If ὄμοιον modifies τὸ τοιοῦτον, and we are supposed to call fire and each of the other elements τὸ τοιοῦτον (d5), then fire will be “similar” to itself as it “goes around.” But this cannot be right because the “going around” is one in which fire becomes air, which becomes water, etc. Those who think that Plato’s subject here is phenomena argue that what is “similar” are phenomenal occurrences, or occurrences of “phenomenal fire.” Under this interpretation τὸ τοιοῦτον picks out similar phenomena and indicates them as being “of a certain sort.” I argued above that Plato is not concerned with “phenomenal fire” but the element fire that we observe. Furthermore, the actual “phenomena” about which Plato is speaking are not described as “recurrent” in the sense of appearing to be the same; Plato says, “each one of these never appears to be the same” (*τούτων οὐδέποτε τὸν αὐτὸν ἐκάστων φανταζομένων* [c7–d1]). Perhaps with reason Cherniss 1957, 245, claims that “phenomena cannot be denominated, because no part of the phenomenal flux is distinguishable from any other”: *qua* phenomena this may be true for Plato. The impossibility that τὸ τοιοῦτον ... ὄμοιον refers either to phenomena or to actual elements led Cherniss to posit the existence of a fourth category of things, “self-identical characteristics,” which “recur.” ὄμοιον, then, is better seen as an accusative of manner. Note that Plato really means “similarly” and not “the same,” because the cycle he has described probably allows for variation: Plato’s cycle is water > earth > air > fire > air > water > earth > [?], but a more complete cycle would have ended with air > earth > water > earth > etc. It seems most likely that Plato’s point is that we observe *a* cycle of change, not a particular cycle. Later in the *Timaeus* he will give a fuller and more detailed account of the cycle (see 56c8 ff.).

(iii) ἀπαν ὄσουπερ ἀν ἔχη γένεσιν (e7). It may be that at this point Plato makes a general statement about things that come to be, although one would expect rather ἀπαντα ὄσαπερ were this the case. Most commentators have recognized the parallel between πῦρ and ἀπαν. Cherniss 1954, 124, sees that reference to be only to the “self-identical characteristics.” Zeyl 1975, 141, who thinks the whole passage is about how we should speak of phenomena, says: “The reference of the καὶ ἀπαν clause, then, is unmistakably to phenomena. Thus either the parallel with πῦρ must be given up (an impossibility) or it must be recognized that πῦρ itself refers to phenomenal fire.” I have argued above that the passage is not about phenomena but about the Receptacle and that Plato here argues that elements (not the phenomena) are what point to it. It remains, then, that ἀπαν means “every one of the elements.” Plato makes a more general case at 50a2–4 (see below).

To this point Plato has argued that the changes we observe the elements to undergo raise a serious problem about how we are to indicate an element in speech since it is not the case that it is this one element and not another (d2–3). His solution to the problem is that when we perceive an element we may “most safely” refer to it not by the demonstrative pronoun τοῦτο but by a demonstrative correlative pronoun with the article: τὸ τοιοῦτον. How does this solve the problem? What does this term mean?

τοιοῦτον commonly “refers to what precedes” (Smyth, § 1245). It usually means “this sort of (or, such a) *⟨thing⟩*.” τὸ τοιοῦτον is the nominalized form. It is clear that “this sort of thing” does not convey very much meaning on its own. We need to know what the demonstrative (“this”) refers to; in writing this is supplied by the context. For example, in the *Laws* the Athenian, discussing legislation for kinds of music, states that in every community except Egypt men are free to compose what music they choose. Clinias responds: ἐν Αἰγύπτῳ δὲ δὴ πῶς τὸ τοιοῦτον φῆς νενομοθετῆσθαι; “How is it you say that in Egypt this sort of *⟨thing⟩* has been legislated?” (656d2–3) The expression τὸ τοιοῦτον easily refers back to the statement that in Egypt men are *not* free to compose what music they choose; without the preceding context the expression would be incomprehensible. If τὸ τοιοῦτον does not have an evident referent, obscurity immediately ensues. For example, when Socrates asks Theaetetus, without providing a clear preceding statement to which the question can be referred, ἡ οὖν καὶ ἄλλοθι ποι τὸ τοιοῦτόν ἐστιν; “Now does this sort of *⟨thing⟩* happen somewhere else as well?” To this, baffled, Theaetetus replies, τὸ ποῖον; “What sort of *⟨thing⟩*? ” (*Thet.* 188e3–4). The answer given to Theaetetus’ question is, “That a person sees something, yet sees nothing” (e6). To convey meaning, then, τὸ τοιοῦτον must have an evident referent. τὸ τοιοῦτον often³⁶ refers to a state

36 But not always, e.g., *Phrl.* 261e5 where τὸ τοιοῦτον refers to an obscure set of claims; *Rep.* 560c3 where it refers to a person in a complex psychological and epistemological state

of affairs, as in the examples above; as such, it can be distinguished from the demonstrative *τοῦτο*. I shall give one further example, this time from Thucydides. Thucydides has just described how the citizens of Corcyra during the revolt busied themselves in slaughtering each other under various pretexts. He continues: πᾶσά τε ιδέα κατέστη θανάτου, καὶ οἷον φιλεῖ ἐν τῷ τοιούτῳ γίγνεσθαι, οὐδὲν ὅτι οὐ ξυνέβη “Every form of death came about, and, as it is wont to happen in such a state of affairs, there was nothing that did not occur . . .” (3.81.5). If Thucydides had written οἷον φιλεῖ ἐν τούτῳ γίγνεσθαι (as it is wont to happen in this), we would expect a reference to a particular thing (as Corcyra) or event, not a general state of affairs.

Plato claims that we should not refer to an element, such as fire, as *τοῦτο* but as *τὸ τοιοῦτον*. We know what the referent is: it is the element that we are now observing, which has certain sensible qualities. By recommending that we refer to the observed element as *τὸ τοιοῦτον*, not *τοῦτο*, Plato seems to be saying that what we observe is not a particular, definite thing, but a certain of state of affairs that has the characteristics that we observe. Plato is trying to avoid using a term that suggests “something having steadiness” (49d7) and that “declares the elements are permanent things” (e3–4) because “the element flees, not waiting for the sentence” (e2) in as much as an observed element is always revolving through the described cycle of change. Plato needs a demonstrative that both indicates the thing referred to and tolerates, or does not conceptually restrain, the state of change the thing undergoes. Ordinary speech is not well suited to accomplish this. Still, Plato thinks that *τὸ τοιοῦτον* can do this. To see how, let us begin with the example of Corcyra given above. We are told how the flux of political power in Corcyra created by the opposing influences of Athens and Sparta set the stage for every kind of atrocity. Such was the instability and complexity of the situation that Thucydides did not wish to single out one or more factors as the cause of the slaughter. The expression *ἐν τῷ τοιούτῳ* (in such a state of affairs) assembles for the reader all that has been said without providing specific references that might suggest that one factor was the cause rather than another. The expression *ἐν τούτῳ* (in this) requires specific reference and therefore could not accomplish this. I am claiming that Plato employs *τὸ τοιοῦτον* in this passage of the *Timaeus* to refer to a changing state of affairs in a manner that is analogous to Thucydides’ use of the expression in the given example.

The changing state of affairs to which *τὸ τοιοῦτον* refers is the one described at 49b7–c7, which has the result that one will put oneself to shame “if he firmly maintains about any sort of them that any one at all is this one and not another” (48d2–3). Plato seems to recommend that we refer to the fire that we observe as “this changing state of affairs.” But the same can, and should, be said of the water, air, and earth that we observe. Therefore, by using this term, we have not “put ourselves to shame” by suggesting with our words that “any one at all is this one and not another.” Accordingly Plato says, “but concerning each one and all of

them (it is safest) to call (them) thus: τὸ τοιοῦτον that is always going round in a similar fashion" (49e5–6). But if this is what Plato intends, he suggests that we should refer to each of the elements in precisely the same way. Is he denying any real difference between them? The answer is, No. The difference is conveyed by the demonstrative nature of τοιοῦτον. Although all the elements are equally "a changing state of affairs," what we are referring to at this instant is a particular phase or stage of the change to which we are now pointing. So the fieriness we now observe is indicated not by a special term that is proper only to a single thing, e. g., fire, but by the demonstrative nature of τοιοῦτον, which refers us to our experience. Plato is, I think, trying to pry us away from our ordinary use of language because that use obscures the distinction he wants to make. The result is that, for the moment,³⁷ we have to abandon use of words that seem to make what we experience, with respect to the elements, into distinct, self-standing entities. This leaves us only thisness to use as a distinguishing marker. However, unlike τοῦτο, the thisness of τὸ τοιοῦτον refers to a particular changing state of affairs, not to a thing that has an unchanging identity.

Before proceeding to the question of how the use of τὸ τοιοῦτον helps us to recognize that there must be a Receptacle, I shall discuss other interpretations of τὸ τοιοῦτον. These may be divided into five categories. Categories (1)–(3) are closely associated; the others make rather different claims. τὸ τοιοῦτον denotes: (1) qualities; (2) attributes; (3) accidentals; (4) recurring self-identical characteristics; (5) makes reference to the Forms.

(1) Chalcidius (§ 325 [348–49]) argues that τὸ τοιοῦτον (*huius modi*) refers to qualities. His argument is that we must distinguish between essence (*essentia*) or substance (*substantia*) and quality. Quality is "that which is accidental to what has substance" (348.28). The pronouns "hoc" and "illud" are "signs of essence," while the pronouns suitable for quality are "tale," "illius modi," and "huius modi" (349.2–7). He continues: "When fire becomes air it changes into a different and opposite material. It is certain that essence does not have in itself anything opposite to itself, but it is rather the case that opposite things circle around the same essence. So change and alteration do not belong to the essence but to quality in which diversity and opposition are found" (349.7–12). Chalcidius does not explain *how* τὸ τοιοῦτον refers to qualities but only argues from the distinction of essence and quality *that* it does. His argument immediately runs into trouble because he claims that "hoc" and "illud" are "signs of essence," but must soon acknowledge that Plato recommends their use for the Receptacle, which Chal-

37 Note that as soon as Plato makes the τοῦτο – τὸ τοιοῦτον distinction and uses it for getting clearer about the Receptacle, he returns to common usage and, in fact, has a great deal to say about fire and the other elements as though they are quite distinct entities. This does not indicate that Plato immediately rejects the point he labored for; it indicates only that the distinction was meant to establish a point for use in a larger argument.

cidius thinks is matter, not essence. Although not for the reasons stated by Chalcidius, it will become clear at 50a2-3 that $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ does refer to qualities as well. How this is so requires explanation.

Taylor 1928, Cornford 1937, and Gulley 1960 argue that $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ refers to sensible or phenomenal qualities. Taylor (318) understands Plato to say that "we should avoid nouns altogether and only use adjectives, speaking not of fire, but of 'fiery' appearances." Nouns, like "fire," are "names of 'sensible qualities' or groups of such qualities which 'come around' over and over again in the passage of nature and are 'alike.'" By $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ Plato means an *F*-like appearance, a "sensible quality." Cornford (181), who accepts that Plato held the "bundle" theory of particulars, argues that "'fire' is properly only a name for a certain combination of qualities or powers which appear or disappear and are always varying. Such groups of qualities, though perpetually shifting, are sufficiently alike to be indicated by names. . . . In contrast to the stream of fluctuating qualities stands that in which they make their transient appearances. The Receptacle is the only factor in the bodily that may be called 'this.'" Gulley (54) follows Cornford. To explain how Plato can recommend that we call "fire" $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ – fire then is a sensible quality – this interpretation requires that $\ddot{\omega}\mu\omega\omega$ ("alike" [e5]) refers to $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$, against which I have argued above. Further, although Plato clearly refers to sensible qualities in this passage, in as much as the discussion of elemental change is based on our observation of the elements, Plato does not claim that fire is merely a sensible quality. In fact, Plato has an elaborate theory of the construction of elemental bodies that accounts for the sensible qualities we perceive them to have. As will soon become apparent, Plato claims that an element is something that stands in relation both to a Form and to the Receptacle. This entails that elements are considerably more than sensible qualities.

(2) Martin 1848, 174, argues that $\tau\omega\tau\omega$ and $\tau\omega\delta\epsilon$ "désignent le sujet" while "l'attribut est désigné par les mots $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$." He says that according to Plato "il y a dans toutes les choses passagères sujet et attributs, substance et essence." An attribute, in Plato's view, is "l'apparence mobile" which goes from one subject to another. The subject – attribute interpretation of the $\tau\omega\tau\omega$ – $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ distinction is more thoroughly argued by Zeyl 1975. Zeyl accepts the premise that in this passage Plato is chiefly concerned with how best to refer to changing phenomena. He also accepts the reading of $\ddot{\omega}\mu\omega\omega$ (49e5) according to which it modifies $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ and refers to recurrent similarity. He says, then: "Each and every phenomenal thing is something that recurrently turns up similar to what it has been on a prior occasion and to what it will be again on some later occasion as it passes through the cosmic cycle again and again" (139). Plato, then, recommends that we call "fire," that is, phenomenal fire, "a recurrent 'such-and-such'" (139). The article $\tau\omega$, says Zeyl, "reminds us of the fact that the expression is to refer to some thing, a subject which is temporarily qualified in some way" (132); he therefore translates $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$ as "what is such-and-such." $\tau\ddot{o}\ \tau\omega\omega\tau\tau\omega$,

he says, "merely describes its referent as being an attribute of something else" (146–47). Because "fire" is a τὸ τοιοῦτον, fire "picks out a recurrent attribute of something else"; it is "logically adjectival" (147). So Plato's "trustworthy and steady statement" (49b5), he argues, applies "nominal references to phenomena as adjectival descriptions of some basic, permanent subject worthy of that status. This subject is the receptacle, for only it can be designated as τοῦτο" (149). In other words Zeyl's argument is that τὸ τοιοῦτον indicates "the receptacle that is qualified by such-and-such a recurrent attribute," or "that subject which is such-and-such." This, in fact, is quite close to what Plato says at 51b4–5. There are, however, problems with this attractive interpretation. Firstly, Zeyl's interpretation of τὸ τοιοῦτον makes the expression a complex philosophical construct and ignores the fact that Plato often uses it with a rather straightforward meaning. It should first be demonstrated that τὸ τοιοῦτον cannot have one of its ordinary meanings before one undertakes to load it with special philosophical implication. Secondly, Zeyl's interpretation of τό as a "reminder" of the Receptacle works against the very purpose for which Plato introduces the τοῦτο – τὸ τοιοῦτον distinction: τὸ τοιοῦτον should not obliquely indicate the same thing that τοῦτο indicates, but something that Plato labors to establish as conceptually distinct. Thirdly, in Zeyl's interpretation τὸ τοιοῦτον does not leave change unrestrained: the expression "what is such-and-such" brings elemental change to a "halt" in a way that Plato is trying to avoid. I think Zeyl is exactly right when he says that an element is the Receptacle being qualified in a certain way, but I do not think this claim is embedded in the expression τὸ τοιοῦτον.

(3) Bassfreund 1885, 10, 52, interprets τὸ τοιοῦτον to refer to what is accidental. In his view the τοῦτο – τὸ τοιοῦτον passage makes a sort of Aristotelian form-matter or substance-accident distinction where "matter" or the τοῦτο is the "substance" of a thing, the "that alone which is real which belongs to a thing," and the "form" is the appearance, "which is something that is purely accidental, which has therefore no being of its own (*Für-sich-Sein*)" (52). Bassfreund does not argue for this view; his interpretation resembles that of Chalcidius. It makes the helpful point that a thing should be analyzed as a τοῦτο – τὸ τοιοῦτον.

(4) Cherniss 1954, 1957, Lee 1967, Mills 1968, Reed 1972, Mohr 1980, 1985, Silverman 1992, and others take the view that τὸ τοιοῦτον denotes self-identical characteristics or characters (Lee identifies them with the "images of the Forms"). Above I have indicated Cherniss's reasons for this claim. Zeyl's chief argument against Cherniss and Lee is that there is no need to posit the existence of self-identical characteristics because phenomena can be "similar" and therefore can be denominated.

(5) Gill 1987, 43, argues that τοῦτο properly refers to the Forms. To talk about what is in flux one can only refer to the Form of which something is the "homonymous image." τὸ τοιοῦτον means "something which is such as the Form is." Gill's thesis that τοῦτο refers to the Forms is based on the assumption that the

description of elemental change refers to the precosmic state in which the only things that could be "steady" were the Forms.³⁸ This assumption is implausible because the passage makes clear reference to the changes that we now observe the elements to undergo.

The τὸ τοιοῦτον distinction and the second Kind

Plato claims, for his argument, that the elements change in such a way that what we observe to be fire is just now coming to be air or is in the process of changing to air. Cyclical elemental change is ordered change; it is not random change. We recognize such change to be *F*-directed change. When we think, for example, "fire," we conceive of a Form of *F*-ness, the Form of fire, which it evidences. We do so because the sensible properties that we perceive are those that are derived from the structure of fire, and – Plato will argue – the structural form of fire constitutes what fire is, its participation in the Form of fire. In Plato's account the change of observed sensible properties of elements results directly from change in elemental structure. Change in structure is unfailingly ordered and *F*-directed, thanks in large part to the regular components out of which elemental bodies are constructed (see ch. 4). The difficulty presented by elemental change is not that we cannot determine a Form of *F*-ness to which the observed sensible properties correspond but that we cannot determine *what* it is that has these properties because there seems only to be a changing state of affairs. We cannot say "this (τοῦτο) is fiery (= *F*)" but only "this changing state of affairs (τὸ τοιοῦτον) is fiery." But this does not seem quite right. We do point to observed elements and say "this (τοῦτο) thing." Is Plato telling us that the elements we observe and the world made of them are in such a state of flux and we should never employ any words to signify them, even the demonstrative pronoun "this"? This Heraclitean view is certainly not Plato's. Plato's argument in making the τοῦτο – τὸ τοιοῦτον distinction is that: (i) the elements that we observe can, strictly speaking, only be referred to by the expression τὸ τοιοῦτον because of change; (ii) it is the case that we can use the expression τοῦτο; (iii) but this cannot refer to what we observe; so (iv) it must be the case that if we use τοῦτο correctly it refers to something that is not the sensible, changing properties that we observe and that does not change in the manner that they do; (v) this something is "that in which" the elements come to be, the Receptacle. Plato's purpose in making the difficult claim that the elements we observe should only be referred to as "this changing state of affairs" is precisely to force us

³⁸ According to Gill, the Receptacle "cannot provide the phenomena with such permanence to licence our calling them anything at all" (47), and "the matter of physical objects is a set of principles which the deity finds already present in the receptacle and uses in constructing the bodies of the four elements" (47). Gill is, however, unable to say what these principles might be.

to recognize that there is an essential factor in coming-to-be of which we have failed to take account: the stable something that is the correct referent of "this." This something is also part, so to speak, of our world; it grounds, one might say, coming-to-be with the result that our world is not a state of phenomenal flux but one of regularly changing bodies having determinate properties.

Before turning to Plato's discussion of the referent of *touto*, I wish to say a bit more about elemental coming-to-be as a member of the second Kind. In Chapter Two it was argued that to distinguish a third Kind Plato separated off the subject term "that which" or "*x*" from "comes to be *F*," leaving "coming-to-be *F*" as the second Kind. This distinction is conceptual. In fact we never encounter something, a "that which," that neither is nor comes to be *F*. Likewise, we never encounter the process of "coming to be *F*" separate from that which comes to be *F*. As long as the second and third Kinds are regarded as metaphysical entities, we have little difficulty grasping Plato's distinction. When, however, Plato applies the distinction to the objects of our experience, the distinction becomes much more difficult to conceive of. Plato argues that the elements we observe are just a particular, directed, changing state of affairs, cases of pure coming-to-be *F*. He seems, therefore, to be saying that we experience coming-to-be *F* by itself and we usually give this a name, like "fire," although we ought to refer to it simply as "this changing state of affairs" (*tò toutōtov*). If this is the case, Plato's distinction of the physical members of the second Kind is no longer merely conceptual. As we shall soon see, the Receptacle, a physical member of the third Kind, is also treated as though it is actually, not merely conceptually, distinct from the coming-to-be of the elements. To the degree that Plato pushes the distinction beyond the conceptual, to the same degree what he says becomes more difficult both to conceptualize and to speak about. Our ordinary language takes as given, just as we take as given, that there can be no actual distinction between "that which" comes to be and "coming-to-be"; for example, our speech does not distinguish between "what comes to be fiery" and "coming to be fiery": we call both "fire" and we experience both as one thing. Plato, therefore, is consciously challenging the way we speak and think about the objects of our experience and the world around us.

The *touto* distinction

After arguing that the only accurate way to refer to continually changing elements that we observe is "this sort of thing," i. e., "this changing state of affairs," but not "this," Plato turns to what "this," in the case of the elements, does refer to.

(49e7–50a2)

That in which each one of them continually coming to be (ἐν ᾧ ἐγγίγνομενα ἀεί), appears, and again away from there (each) perishes – only that, in turn, (is it safer for us) to name by using the terms *touto* and *tode*,

Plato has already told us that whatever τοῦτο refers to should be “something having steadiness (βεβαιότητα)” (49d7), that it is an “expression that declares the (elements) are permanent (μόνιμα) things” (e3). We may conclude that, in Plato’s view, “this” must refer to something that is unchanging, at least in respect to what “this” points out. With regard to the elements Plato says that “this” can be used to refer to “that in which each one of them continually coming to be, appears” (49e7–8). The identification of an entity “in which” elemental coming-to-be occurs corresponds with the identification of the third Kind as “that in which” coming-to-be *F* occurs. The third Kind is a metaphysical entity, but what Plato now tries to distinguish (the Receptacle) should be a physical entity of some sort. If so, and if we can refer to it with the demonstrative pronoun “this,” which commonly picks out something definite and, in Plato’s view, “permanent,” then we ought to be able to point to it easily and it ought to be an object of common experience. When we observe an element we only observe its various sensible properties; these properties are produced by its structure that we cannot observe, at least Plato could not observe. But in the account Plato asks us to accept, these properties are changing. We observe only a changing state of affairs; we do not observe anything else. But the “that in which” is presumably a physical entity, so where is this stable thing we should be able to point to and say “this”? Plato seems to recognize this difficulty and therefore quickly adduces the Gold Analogy (see below) where the “that in which” (the substance gold) can plausibly be said to be observable. But that is only an analogy. As it stands, Plato is asking us to distinguish the changing state of affairs from something “in which” that state of affairs occurs and to believe that this entity is the stable referent of “this.” How can we make sense of this? Once we take from consideration the sensible properties of the elements, what is there?

The answer to this question lies, I think, in the fact that the Receptacle is a physical entity. I have argued that the distinction between the second and third Kinds is a conceptual one. Once “coming to be *F*” is conceptually distinguished from the “that in which” it seems that we can make no attributions to the third Kind. But the Receptacle is not a metaphysical entity. If, following the paradigm of the second and third Kind distinction, we distinguish between the elemental processes of coming-to-be and “that in which” they occur, the “that in which” must still remain a physical something (in some sense). In the course of Plato’s discussion of the Receptacle it becomes evident that the Receptacle lacks any property or attribute that could restrict or impair its ability to “receive” the forms of the elemental bodies; with respect to these forms it is, and remains, perfectly formless. The Receptacle is distinguished from “coming to be *F*” in the sense that it does not have the sort of form that might prevent it from “receiving” the forms of the elements. And as the elements are the constituents of all bodies, one may also say that, ultimately, the Receptacle does not have a form that might prevent it from “receiving” the coming to be of bodies in general – that is, that

would prevent the elemental bodies from aggregating in diverse ways. Although these restrictions on something physical are severe, it could still be the case that the Receptacle has other sorts of properties. Evidence that Plato thought that the Receptacle has such properties is his claim that the Receptacle is a kind of “nature” (50b6) and that it shakes. The Receptacle, then, is not entirely devoid of properties. In as much as it is not entirely devoid of properties it could, it seems, be a referent of “this.” The argument that it is such a referent seems to be the following: (i) we are not wrong when we think that “this,” in the case under consideration, refers to something (cf. 49e2); (ii) what it refers to cannot be the changing state of affairs (49d7–e1); (iii) there is nothing else it can refer to but what this state of affairs is “in” ($\epsilon\nu\omega\epsilon\gamma\gamma\iota\gamma\nu\mu\epsilon\nu\alpha$: 49e7); (iv) what something is “in” (the Receptacle) is in some sense distinct from that something; (v) as distinct, it does not undergo the change that the state of affairs undergoes; (vi) as such it is “stable” (49e7); (vii) what is stable can be a referent of “this” (49d7–e1); (viii) therefore the Receptacle is the referent of “this” in elemental coming-to-be. Of course, Plato does not give us this argument directly. Nothing said so far supports premise (v). Even so, Plato will shortly argue at length for a version of (v). I suggest, therefore, that “this” refers to the Receptacle in as much as, having certain properties, it is distinguishable from and unchanged by the processes of change that occur “in” it.

Besides claiming that we can “safely” call $\tau\omega\tau\omega$ and $\tau\omega\delta\epsilon$ “that in which” each of the elements comes to be, Plato also tells us that as each one comes to be in this entity, it “appears” ($\varphi\alpha\nu\tau\alpha\zeta\epsilon\tau\alpha$ [49e8]), that is, we observe it. Furthermore, he adds that “again away from there *<each>* perishes” ($\epsilon\chi\epsilon\iota\theta\epsilon\nu\alpha\pi\omega\lambda\lambda\upsilon\tau\alpha$ [e8–50a1]), referring to the constant elemental change already described. The uses of the term “from there” ($\epsilon\chi\epsilon\iota\theta\epsilon\nu$) might seem to suggest that Plato conceives of the Receptacle as something which a thing may be either “inside” or “outside,” as though it were a kind of place. There is, however, no need to draw this conclusion from Plato’s use of “from there.” It is likely that $\epsilon\chi\epsilon\iota\theta\epsilon\nu\alpha\pi\omega\lambda\lambda\upsilon\tau\alpha$ occurs merely as a natural Greek counterpart to $\epsilon\nu\omega\epsilon\gamma\gamma\iota\gamma\nu\mu\epsilon\nu\alpha$, that is, “perish from” is the natural counterpart of “come to be in.”³⁹ Even so, it appears that in antiquity there were some literal-minded readers of the *Timaeus* who wished to find more meaning in the use of $\epsilon\chi\epsilon\iota\theta\epsilon\nu$. Proclus, interpreting Plato to claim that “enmattered forms” cease to exist if they are not “in” matter, says:

And it should be investigated whether this *<form>* goes out. If it enters into nature, this is an absurdity, for nature receives that which accords with it and is of it; it is just as though one were to say that something departed from coming-to-be into the intelligible. But if *<we suppose the form>* went into another matter, we will be saying something contrary to what we experience, for when fire is quenched and the matter becomes airy.

39 This point was made to me by D. Frede in correspondence

we do not see other matter being kindled. But if it comes to be in itself, (the form) will be an intelligible, self-subsistent, and indivisible; whence then does mass arise? whence extension? whence the conflict over the common receptacle? For things that are in themselves do not struggle over the seat provided by the subject since they have no need of a subject (*ὑποχειρένον*). If, then, after each perishes such forms cannot be in nature or in themselves or in matter, they must depart into non-being. (*On the Timaeus* 3.357.13–28)

Proclus' argument shows that, if “going out” is taken in a non-metaphorical sense, an absurdity follows because there is nothing for these forms – which are instances of *F*-ness – to go out into; to “go out” simply means not to be. The same point is made by the following argument. If, as Plato thinks (see 51b4–5), to be, for fire, is just “coming to be fiery” in the Receptacle, “going out” of the Receptacle would be a case of not being fire, or simply ceasing to be. If “to be outside,” had a meaning, it would mean only “not to be,” nothing more.

Plato now supports the claim he has made about the elements by extending it to opposite qualities – primarily opposite sensible qualities – thus making the original claim more plausible.

(50a2–4)

whereas that which is of any kind <of quality> whatever,⁴⁰ hot or white or any of the opposites, and every <such quality> that is <compounded> from them – <it is safer> not to call “that” (*ἐξεῖνο*)⁴¹ any of these.

If Plato is engaged in an investigation of elemental coming-to-be, it may be asked why he now introduces a claim about sensible qualities in general. Does Plato now claim that the Receptacle “receives” the coming-to-be of all sensible qualities? I think it can be argued that: the sensible qualities are qualities of bodies; all bodies are compositions of elemental bodies; the coming-to-be of the elemental bodies is “received” by the Receptacle; therefore, in a derivative sense, the Receptacle is the ultimate subject of sensible bodies in general. Although I suspect that Plato would not reject this argument, I think that Plato’s reason for introducing sensible qualities here is rather to add support to the claim he has

40 ὅποιον τι is usually rendered by reference to quality. E. g., Moreau 1939, 429, translates: “toute détermination qualitative”. Cornford 1937, 180 “that which is of some quality”; Hackforth 1944, 36. “a qualitative entity, whatever it be.” While this seems right, the meaning in this context is more likely “whatever is a τὸ τοιοῦτον.”

41 Taking, with Archer-Hind 1888, 175, Gulley 1960, 60, and Zeyl 1975, 141, *ἐξεῖνο* to modify ὅποιον τι. Cherniss 1954, 124, condemns this as “perverse,” and has *ἐξεῖνο* modify the Receptacle, i. e., that which is τοῦτο. The meaning Cherniss derives by this reading is “not to call it (i. e., the receptacle) any of these (i. e., any kind of thing).” This would seem to imply that we should not call the Receptacle “fiery” or “hot,” but this is just what Plato does at 51b4. Also, Plato is not here making prohibitions about what we should call the Receptacle, this would introduce an entirely new line of reasoning.

just made. Plato has argued that we must reconsider what we commonly think fire is: what we commonly observe as fire is just a particular, changing state of affairs. This is not easy to accept. The claim, however, that the qualities, or properties, white, hot, and their like, are unstable and cannot be referred to by "this" or "that" seems more plausible. In fact, later in the *Timaeus* Plato will argue that these qualities are processes of change, without, however, any reference to the Receptacle; I shall briefly discuss these qualities below. Hot and white are qualities that are bound to our sense awareness. It is also evident, at least Plato is taking it as evident, that they are not self-standing entities but exist only in so far as they are "in" or are "received by" self-standing things. In the *Timaeus'* account there are, strictly speaking, no perfectly stable things that are constituent parts of our physical world. Even so, we do experience relatively stable things, for example, walls and spoons. Such stable things in our experience provide a parallel to the object of Plato's inquiry, the Receptacle. Sensible qualities, for example, white and hot, which "come to be in" or are "received" by stable things such walls and spoons, offer a parallel to what Plato has said about the observed elements: "it is safer not to call 'that' (*exeivo*) any of these (qualities)." The chief point of difference between such sensible qualities and, for example, "fiery" is that what they are "in," the referent of "this," is evident in their case – e. g., the wall is white, the silver is hot – but this is not so in the case of "fiery." Because of this fact about sensibles, it is rather uncontroversial to claim that sensible qualities, like "fiery," cannot be referred to by "this" and that "this," instead, should be applied to the subject that has these qualities. But once we grant the parallel between sensible qualities and their relatively stable subjects on the one hand and the elements and the Receptacle on the other, the fact that the Receptacle is not an object of experience – as the wall is in the case of white – does not appear to be so large a stumbling-block, or so Plato hopes. Therefore the introduction of opposite qualities serves Plato's argument for the τοῦτο – τὸ τοιοῦτον distinction and his claim about the relation of the elements to the Receptacle.

The introduction of opposite qualities also serves to make a further claim about the relation that "fiery" bears to the Receptacle: just as white qualifies a wall so "fiery" qualifies the Receptacle. As we shall soon see, Plato makes considerable use of this claim. In fact, it will turn out that if one asks, "What is fire?" Plato answers that it is "safest" to say, "*This* (= the Receptacle) is fire," or, more accurately, fire is "the Receptacle coming to be fiery" (cf. 51b4–5). The Gold Analogy, which immediately follows, picks up these points, making them in a much less elliptical way. The mention, then, of sensible qualities may be meant as a kind of bridge to the Gold Analogy.

A few words must be said about how Plato analyzes sensible qualities such as white and hot in the *Timaeus*. Plato carefully argues that they derive from the shapes and motions of the elemental bodies. For example, at 61d5–62a5 Plato analyzes what we mean when we say that fire is "hot." The sensible quality

hotness is the quick, cutting action of small, pyramidal shaped fire bodies that affects the sense of touch; the more fire bodies present and the faster the action, the hotter something is. The opposite sensible quality, cold, is the squeezing out and replacement of fire bodies by larger and slower water bodies (62a5–b2). The sensible quality “white” is a process wherein the visual stream is forced apart by faster fire bodies, whereas “dark” is the compression of the visual stream by slower elemental bodies (67e4–8). Sensible qualities are, then, processes of change. Because they consist in an interaction, namely an interaction of our sense organs with motions and shapes of the elemental bodies belonging to or issuing from some object, they are doubly dependent on stable subjects for their existence.

The Gold Analogy

The Gold Analogy follows immediately after the example from observable elemental change. It is quite evident, as almost all commentators agree,⁴² that the Gold Analogy is actually part and parcel with the discussion of elemental change because its stated intent is to clarify and elaborate the **τοῦτο – τὸ τοιοῦτον** distinction.

(50a4–b5)

But it is desirable to speak about this once more with greater clarity. For if someone who had modeled every shape (*σχήματα*) out of gold did not cease from remodeling each *(shape)* into all, and someone pointed out one of the *(shapes)* and asked, “What is it?” it would be much the safest with regard to the truth to answer, “Gold.” But it would never *(be safest)* to call the triangle and whatever other shapes came to be in *(it)* (*ἐνεγίγνετο*) *ταῦτα* (*these*), as though they are *(something)* (*ὄντα*),⁴³ since they are *(things)* which, while⁴⁴ each one is posited, suddenly change. Howbeit, if for this reason one would wish to accept with some safety even *(the term)* *τὸ τοιοῦτον*, it would be satisfactory.

As in the **τοῦτο – τὸ τοιοῦτον** passage, I accept Zeyl’s interpretations of the Greek text against those of Cherniss 1954, and Lee 1967, 1972, unless otherwise indicated.

42 An exception is Lee 1972, 222.

43 μηδεποτε λέγειν ταῦτα ὡς ὄντα. Many translations are possible here. Zeyl 1975, 141, suggests “never to say that they are ‘these,’” which is quite possible as well in view of the use of the phrase ὡς ὄντα at 49e3. Despite the ambiguity, however, the basic sense is rather clear: like the changing elements, the shapes that come to be in the gold should not be called “this” as though they actually are what they appear to be and nothing else.

44 μεταξύ. See LSJ, s.v. I.2.

The Gold Analogy describes a goldsmith who is constantly reworking a lump of soft gold into different shapes. Perhaps Plato chooses gold as a material instead of clay, a more pliable substance, because he might think clay is not suitable to the dignity of his subject. At any rate, the momentary shapes, Plato says, are formed “out of” (*ἐκ* [50a6]) the gold. The preposition *ἐκ* is a central piece of evidence for the “matter” interpretation of the Receptacle (see, e. g., Ueberweg 1854, 58; Teichmüller 1874, 329). Those, however, who argue against the “matter” interpretation point out that Plato’s use of *ἐκ* here need not imply that he means us to understand gold as solely the constituent of the shapes rather than as “that in which” the shapes come to be (see, e. g., Siebeck 1888, 85; Baeumker 1890, 130–31, 166). It is clear from what Plato goes on to say, namely that the shapes come to be “in” the gold, that Plato wishes us to think of the gold as a “that in which,” and so analogous to the Receptacle “in” which the elements come to be. But it may still be asked whether Plato subtly introduces a new claim by stating that the shapes are “out of” gold. This claim could be, for instance, that the Receptacle of the elements’ coming-to-be is in fact an integral part of what the elements are. When Plato says, as mentioned above, that fire is, properly speaking, a part of the Receptacle coming to be fiery (see 51b4–5), this does imply that the Receptacle is, indeed, an integral part of what the elements are. So perhaps Plato is introducing the claim here. Perhaps, but it remains the case that this is only an analogy. One purpose of this analogy is to describe a case of coming-to-be where what functions as a “that in which” is an object of our experience: we see the gold as it is being shaped. It is therefore appropriate, and would be natural in Greek idiom, to mention that the shapes are made “out of” gold that we see. So the preposition “out of” is appropriate to the case of golden shapes. But we do not see the Receptacle, and so an argument must be made to the effect that it is appropriate as well to say that the elements are formed “out of” the Receptacle. Plato does seem to make this argument, but not here.

Aristotle read the description of elemental change and the Gold Analogy as a single argument: “He did not make any use of it [i. e., the Receptacle], once he said first that there is a kind of underlying thing (*ὑποχείμενόν τι*) for the so-called elements just as gold *(is a kind of underlying thing)* for works made of gold” (GC B 1. 329a15–17). Aristotle thought that Plato used the Gold Analogy with the intent of better explaining the coming-to-be of the elements, but complains that once he introduced the notion of an underlying thing (this notion, of course, belongs to Aristotle), he ignored it when he discussed in detail the coming-to-be of the elements later on (53c4 ff). Aristotle conceived of the “underlying thing” as a “that out of which,” e. g., “for there always is that which underlies, out of which that which comes to be (*τὸ γεγόνεον*) *(comes to be)*” (Phys. A 7. 190b3–4). But despite the use of the preposition *ἐκ* in the Gold Analogy, there is little indication that Plato intended that the referent of “this,” with regard to the elements, be understood as an Aristotelian “underlying thing.”

The worry over the implication of "out of" in the Gold Analogy raises a fundamental issue in the interpretation of what Plato says about the Receptacle: how strong is the claim that the Receptacle is a "that in which"? Is it so strong that it is incompatible with the claim that the Receptacle is a "that out of which" for the elements? These questions are questions about separation. By this I mean that the expression "that in which" is used to imply separation. The prototypical example of a "that in which" is place, which is separable from what is in it; for example, the place that water occupies in a vessel is taken by air when the water is poured out. It is quite clear, I think, that Plato means to imply some sort of separation when he speaks of the Receptacle as a "that in which." Still, is the implied separation the strong separation that place has from what fills it? Place is not in any sense a constituent of what is in it. Therefore if the Receptacle is a "that in which" in the sense that place is, it cannot be a "that out of which," given that the expression "that out of which" implies being a constituent of some kind. Unless Plato commits a conceptual error, as Aristotle suggests, the Receptacle cannot be both a "that in which" and a "that out of which," that is, in the sense these terms have just been used. If we grant, for the moment, that Plato does claim that the Receptacle is, in some sense, a "that out of which," it must be the case that either Plato commits a conceptual error or he employs a sense of "that in which" that is compatible with the Receptacle being a "that out of which"; such a sense would imply a weaker form of separation than that required by the paradigm of place.⁴⁵ I have been suggesting, and will suggest, that Plato intends this weaker separation.

The Gold Analogy begins what will be an extended argument for the claim that the Receptacle is affected by the processes of coming-to-be that it "receives." The analogy does so by directing our attention to the continuous reshaping of the gold. The gold in the analogy is not like a glass vessel in which water is stirred, but partakes of the process of change by being shaped. The fact that the gold is so affected suggests that the Receptacle does not enjoy the strong form of separation from what it "receives" that a place enjoys from what occupies it. Place is not affected by what occurs in it or occupies it; the Receptacle is. I shall return to the discussion of separation in due course.

In the Gold Analogy, as in elemental change, the change of shapes in the gold lump is speeded up to produce a puzzle. The puzzle is: how are we to answer the "What is it?" question if we are asked about a momentary shape in the gold. The

45 Below and in ch 5 I shall argue that under the term *χώρα* Plato discusses the notion of place. The foremost reason for this discussion is the role of place in an argument against a materialist view. I suspect, however, that another reason might be that Plato recognizes that place is the prototypical case of a "that in which." It would be appropriate that he discuss place, since if we have an understanding of the prototype we will be better equipped to understand the ways in which the Receptacle does and does not fit the prototype.

shape is assumed to change before we can say "triangle," so reference to shape will not answer the "What is it?" question. In the case of elemental change there seemed to be nothing visible we could point to in order to answer the question, "What is fire?" The Gold Analogy provides precisely this. We may, Plato says, point to the gold and answer, "Gold." The gold is, then, "that in which" the various shapes come to be and can be indicated by "this." The shapes, on the other hand, because they are continually coming to be first one, e. g., a triangular shape, then another, are processes of coming-to-be and can with safety only be denominated by τὸ τοιοῦτον. In the sense that the "that in which" is now evident, the Gold Analogy is "clearer" (50a4). But in another way the analogy seems to raise new difficulties. Zeyl 1975, 143–46, argues that the answer "Gold" does not adequately answer the "What is it?" question which was asked about a triangle made of gold. He thinks that the answer "Triangle" is also acceptable "with some degree of safety" (his translation of b4–5 [143]), since it is shaped gold. Zeyl argues for this because he wants to see – contra Cherniss – the Gold Analogy as a justification of our natural way of referring to phenomena. Although Zeyl is right that "Gold" is not a very satisfying answer (146), the question was posed not to show how we may refer to phenomena but to clarify what Plato means by a "that in which" coming-to-be occurs. The Gold Analogy, like the other analogies Plato will use, should be interpreted by reference to the purpose for which it was introduced.

Plato, however, seems to think that the Gold Analogy could be misinterpreted to suggest that the Receptacle, like a lump of gold, is one of the objects of the physical world, and so, in fact, a second kind of thing. Further, the argument from observable change seeks to establish that there is a stable "that in which" for the elemental processes of "coming to be." Would not such a stable thing be a physical object? Partly to insure against such an interpretation Plato now proceeds to argue that the "receiving" function of the Receptacle does not cause that it comes to be in the process of "receiving." This argument also tells us more about what the "nature" of the Receptacle must be in order to perform its function.

The Receptacle and the ἔχμαγεῖον⁴⁶ Analogy

Plato introduces the next stage of his treatment of the Receptacle with the following words: οὐ αὐτὸς δὴ λόγος καὶ περὶ Plato uses this exact expression one other time. Gorgias argues in the *Gorgias* that teachers of a craft and the craft itself should not be held responsible if students abuse any of the skills that they

⁴⁶ I leave the term untranslated here because it can refer to any thing that performs the required function, e.g., a block of soft wax, dough, clay. Comford 1937, 182, uses "matrix," but this seems too narrow. Perhaps "impress-holder" roughly conveys the sense.

have been taught; those to blame are the students themselves. He then continues ὁ αὐτὸς δὴ λόγος καὶ περὶ τῆς ἀητορικῆς: "The same argument also holds with regard to the art of rhetoric" (457a3).⁴⁷ In the present case the "argument" is the claim that one must make the τοῦτο – τὸ τοιοῦτον distinction, that is, that there is something stable, permanent, "in" which the elements, now called "bodies," come to be. Plato shifts from the language of being "in" to the language of "receiving." Until this point the stable something to which "this" refers has been conceived of as a "that in which" elemental coming-to-be occurs. The language of being "in" suggests a strong form of separation, following the analogy of things in place. A place is completely unaffected by what is in it, or by a succession of things that occupy it; the separation is total. This, as will soon become apparent, is not a claim that Plato wants. Plato argues, rather, for a form of separation according to which what is "in" the stable thing affects it but does not change it. While the language of "that in which" is inappropriate to convey such separation, the language of "reception" can convey it.

(50b5–c2)

The same argument also holds with regard to the nature⁴⁸ that receives (δεχομένης . . . φύσεως) all the bodies. One must always call it the same,⁴⁹ for it absolutely never gives up its own power (δυνάμεως): for it both always receives all the <bodies> and has never on any occasion in any fashion taken on any form (μορφήν) similar to any of the entering <bodies> (τῶν εἰσιόντων).

What are the "bodies" that this "nature" receives? Plato last used the word "bodies" at 46d6–7: "But fire, water, earth, and air are all visible bodies." When he begins his structural analysis of the elements he again calls the elements "bodies": "First, it is quite clear that fire, earth, water, and air are bodies" (53c4–5). Because the present context is concerned with the coming-to-be of the elements it seems certain that the expression "all the bodies" refers the four elements,⁵⁰ not physical things in general,⁵¹ although Plato has not yet provided his explanation of how

47 A closely related expression ὁ αὐτὸς δὲ λόγος οὐ καὶ περὶ . . . is found in Lg. 905b2. Here the expression means approximately "It will be the same story with . . .," that is, the same thing, namely retribution for wicked deeds, will happen.

48 Here φύσις need not only imply a concrete particular that has a nature which is a source of independent existence, but can refer merely to "something identifiable that has a certain disposition," namely, the disposition to "receive"; see LSJ, s.v. φύσις I.1, 3.

49 ταῦτὸν . . . προσορτέον. This means that, unlike fire, which can equally be said to be "water" and so on (49b2–5), one should always call this "nature" "the same" because it is stable.

50 See n. 15

51 If physical things in general are meant, the "nature" would seem to be a reference to space or place first mentioned by Plato at 53b4. This however does not seem plausible because the ἔχμαγειον analogy that follows immediately plainly refers to the same "nature"; Plato, then, would be asserting that space or place is a kind of impress-holder. If it is a kind of impress-holder, it must somehow take imprints and shapes, but this is quite impossible.

the elements are in fact bodies. Indeed, the discussion that follows is somewhat proleptic,⁵² because it becomes fully intelligible only when one reflects that Plato's elemental bodies are defined as three-dimensional solids and so fit Plato's definition of body (see 53c4–6).

In this passage Plato claims that that which underlies elemental change "never gives up its power," that is, its faculty both to "receive" the elemental bodies and to remain unchanged with regard to form ($\muορφή$) of the bodies that enter it. Although the gold in the Gold Analogy received shapes, it never had its own proper shape; in fact, it could receive every shape equally precisely because it had no shape. Likewise, the Receptacle "has never taken on" or adopted ($\epsilonιληφε$ [c1]) a form and made the form its own. Plato does *not* say that the Receptacle does not "receive" in some way the "form" or shape of the incoming "body"; rather he says that the Receptacle does not "take on" this form. The distinction will prove important in what follows. The "power," then, of the Receptacle – which presumably it can never lose if it is to be a receptacle – is to receive and yet to remain essentially unchanged by what it receives. Plato's distinction between "receiving" and "taking on" is a distinction between how things have what Aristotle would call "essential" and "accidental" attributes or properties. Plato makes a distinction equivalent to Aristotle's in the *Phaedo*. There Socrates argues that Simmias is not tall "by the fact that he is Simmias ($\tauο Σιμμίαν είναι$) but by the tallness that he happens to have ($\ddot{o} τυγχάνει ἔχων$)" (102c1–2). Snow and fire, on the other hand, have the properties "coldness" and "heat" respectively in such a way that they cannot lose these properties and continue to be what they are: "What is snow will never take on heat . . . and still be what it is, snow, and also hot, but when heat approaches it will either slip out of the way of it or perish . . . And fire likewise, when cold approaches, it will either slip out of the way or perish, since it will not dare to take on cold and still be what it is, fire, and be cold" (103d5–12). Fire has heat, snow has cold, soul has life, and three has oddness, in such a manner that these things cannot be what they are without these properties. There are, then, properties or attributes that a thing may acquire or lose and remain unaltered as to what it is; but there are other properties or attributes that are basic to what a thing is and cannot be gained – since it must already have them – or lost, if the thing will continue to be. Plato now claims that what the Receptacle "receives" is the kind of thing that it can acquire or lose and remain unaltered as to what it is; Simmias' tallness is a parallel. If, however, the Receptacle were to "take on" what "comes in," it would be changed as to what

52 Cornford 1937, 182–83, in reference to the Gold Analogy, holds that there is no reference in the entire passage to the latter discussion of the elements. He bases his view on the argument that a first-time reader could not have understood these references. Surely, given the abstruseness of the *Tim.*, Plato could not have intended it for one-time readers. On an example of Plato's use of prolepsis see Kahn 1993.

it is. The Receptacle, Plato will claim straightway, is and must be shape-neutral. It can “receive” the shape of what “comes in” but it does not “take on” that shape, because if it did, it would no longer be shape-neutral. What “comes in” are elemental “bodies” that have distinct geometrical forms or shapes (on which see ch. 4). Therefore Plato emphatically denies that the Receptacle “takes on” the “form” (*μορφή*) that it “receives.” If it were to “take on” such a form, it would change with regard to what it is and could no longer be the Receptacle of elemental coming-to-be – it would in fact have become that element whose form it adopted. In sum, the Receptacle *qua* receptacle has (essential) properties that make it neutral with respect to the (accidental) properties that it “receives.”

Plato’s mention of “incomers” (*τὰ εἰσιόντα* [c1]) and later “incomers and outgoers” (*τὰ εἰσιόντα καὶ ἐξιόντα* [c4–5]) has been a source of much debate since antiquity.⁵³ What are the “incomers”? The obscurity dissipates somewhat when one realizes that Plato is speaking with metaphor of a process of coming-to-be. The term “receive” suggests that that which is “received” comes into what “receives” it from outside. Therefore the “body” that is received by the Receptacle is said to “come in” and, likewise, “go out.” But the language of “coming in” and “going out” is not meant to be taken literally. In Chapter Two I argued that the expression “*x* receives the Form of *F*-ness” is equivalent to “coming to be *F* in *x*.” Here Plato calls an element a “body” that “comes into” the Receptacle, which is to say a body that is “received” by the Receptacle. Let us take the element fire. It follows from what has been said that a fire-body is a “coming to be fiery in the Receptacle.” In as much as a fire-body just *is* a “coming to be fiery in the Receptacle,” a fire-body cannot be something that is anything before it is in the Receptacle. So to say that a fire body “enters” the Receptacle with the implication that it was something outside it is unintelligible. Plato did not, I think, intend us to follow up this unintelligible implication. We are, then, to understand the expressions “incomers” and “outgoers” to indicate no more than elemental bodies that come to be and perish.⁵⁴

To state more clearly how the Receptacle both receives “bodies” and does not “take on” their form, Plato offers an analogy: the *ἐχμαγεῖον*.

(50c2–6)

For it lies as an *ἐχμαγεῖον* (impress-holder) for each kind *<of element>* (*φύσει*), being moved and shaped (*διασχηματιζόμενον*) by what comes in, but appears on account of them to be different at different times. But what comes in and goes out are images (*μιμήματα*) of the things that always are, having been imprinted by them in a wondrous manner that is hard to express, one which we shall pursue hereafter.

53 I shall discuss other views below, after citing 50c2–6.

54 Cf. 49e7–50a1: “That in which each one of them continually coming to be, appears, and again away from there (*ἐκειθεν*) *<each>* perishes . . . ” Above I argued that “outside” the Receptacle an element simply does not exist.

It is first necessary to determine what Plato means by an ἔχμαγεῖον. The word derives from μάσσω, “to knead,” “to squeeze into a shape”; also, “to wipe.” ἔχμάσσω means “to wipe off” or “to squeeze into a shape having taken that shape from (ἐκ) something else.” In this sense Plato says, speaking in the *Republic* of actors portraying inferior people, that an actor will feel ashamed “being untrained in imitating such (sc. bad) men, and find it difficult both to shape himself in their image (αὐτὸν ἔχμάττειν) and to put (himself) into the types (τύπους) of inferior men” (396d6–e1). An ἔχμαγεῖον means a “towel,” i. e., that which wipes off; or, taking the second meaning, “that which takes a shape from something else.” The shape assumed is held superficially; that which holds the shape does not change in nature. For example, a wax tablet receives an imprint without being changed with regard to its own basic shape or its nature; the imprint is held on its surface.⁵⁵ In the *Theaetetus* Plato uses the analogy of a wax ἔχμαγεῖον (191c9) to illustrate the manner in which learning takes place. The wax ἔχμαγεῖον in the soul accounts for memory.

That which we wish to remember of those things that we see or hear or think up ourselves we impress into the (wax ἔχμαγεῖον) as we hold it up to our senses and thoughts, just as ones who impress the imprints of signet rings, and if the (shape) of something has been formed (ἔχμαγή), we remember and know it for as long as its likeness (εἶδωλον) remains in (the wax ἔχμαγεῖον). (191d4–9)

The analogy of the wax ἔχμαγεῖον is used to give an account of memory and recognition (193c4), because the ἔχμαγεῖον retains the likeness it receives, at least for a while. An ἔχμαγεῖον (impress-holder), then, temporarily and superficially receives the “likeness” of something else, not the thing itself, and is not changed with respect to what it is by its reception.

Like an impress-holder, Plato says, the Receptacle of coming-to-be “is moved and shaped (διασχηματίζόμενον) by what comes in” (c2–3). The participles “moved and shaped” are used both in reference to the analogy – describing how an ἔχμαγεῖον takes an impress – and to the fact that the elements are actually shapes that come to be in the Receptacle. Plato will soon claim that the four elemental bodies have the shapes of four of the five regular solids. A fire-body has a pyramidal shape. So when Plato says that in-coming fire-bodies “move and shape” the Receptacle, he means only that the Receptacle imitates or holds the “image” of a pyramid, that is (since the Receptacle is conceived to be passive), that the image of a pyramid comes to be in the Receptacle. Elemental change is

⁵⁵ Plotinus, referring indirectly to the ἔχμαγεῖον analogy, says that a figure imprinted on a block of wax is an example of one kind of “the presence of one thing in another or the being of one thing in another”: “When someone puts a figure onto wax, no change (παθός) is produced such as to make the wax to be something else when the figure is present (on the wax), nor is any loss produced when the figure is removed” (3.6.9.7–9 [1.319]).

here described as “moving and shaping according to a certain prototype.” This process occurs in the Receptacle just as an imprint occurs “in” an impress-holder that receives a shape from an object.

When an impress-holder receives an imprint its surface appears to be somewhat different even though it has not been changed with respect to being an impress-holder. Likewise the Receptacle “appears on account of the <instances of coming-to-be> to be changing at different times” (c3–4). The answer to the “What is it?” question posed in the Gold Analogy was “Gold,” that is, the *τοῦτο*; the *τὰ τοιαῦτα*, the shapes, affected the gold but did not change it with respect to its being gold and malleable. As these shapes continually change, the gold “appears” to change with respect to shape. Likewise, the Receptacle appears to change. The fact that it “appears on account of them to be changing at different times” (c3–4) does not imply that the process of change that the Receptacle undergoes is in any way unreal, but only that the change that the Receptacle undergoes is of a kind that does not alter the Receptacle as to what it is, and so it remains “the same” and a referent of “this.” Returning to the language of “that in which” for a moment, elemental change that takes place “in” the Receptacle causes the Receptacle to display *F*-ness (e.g., fiery) or to become *F*-like and “appear” to change. When Plato speaks here of an “appearance” of change, he should not be construed to imply that the change is unreal, but only that it does not change the Receptacle *qua* receiver.

Plato’s talk of apparent change helps explain the parallel he sees between the sensible properties exhibited by the elements and opposite sensible qualities such as hot and white, which should not be referred to by “this” or “that” (50a2–4). If we paint a green wall white, the wall has undergone a change, but not a change that makes it any the less a wall; the wall has remained the same in one sense but changed in another. The kind of change exhibited by the wall may be called “apparent change”; it is apparent to us, that is, we experience it, but it does not cause that the wall *qua* being a wall is changed. Without making it explicit Plato has adopted this familiar sense of change to elemental coming-to-be and suggests, at 50a2–4, that we may refer to it to better understand the claim he is making about the elements. Even so, there is an important difference here. In the case of opposite sensible qualities, what they are qualities of is evident to us, whereas this is not the case with the observed properties of the elements, and it is precisely this stable something that Plato is trying to explicate.

Plato’s point about apparent change is somewhat subtle. His use of the verb “to change” worried some ancient interpreters. Plotinus, taking exception to Plato’s use of the adjective ἀλλοίον (different), argues that “matter” (*ὕλη*) does not undergo change (*ἀλλοίωσις*) in any respect.

If matter undergoes (*πάσχει*) <change>, it must necessarily acquire something from what it undergoes (*τὸ πάθος*): either what it undergoes or the fact that it is disposed differently than before what it undergoes entered it. So when another quality comes in

after the last, that which receives [the quality] will no longer be matter [sc. because matter is by definition devoid of quality (*ἀποιον*) but a certain kind of matter (*ποιὰ ὕλη*). (3.6.10.1–5 [1.231]).

“Either matter changes,” Plotinus reasons, “and it departs from itself, or else it does not depart from itself and does not change” (3.6.10.17–19 [1.321–22]). Plotinus ascribes change to the “compound” of form and matter, but never to matter itself (3.6.9.36 [1.320]; 3.6.11.12–13 [1.322]). His purpose, one may add, is to insure that matter remain unchangingly evil even though the Good applies order to it and it thus partakes somehow of Good (3.6.11.24–45 [1.323–24]). Apparently some, probably Middle Platonist interpreters of the *Timaeus*, argued that – more or less as I have above – matter is not changed *qua* being matter (3.6.10.19–20 [1.322]). To this Plotinus replies that such people “will be unable to say in what respect [matter] will be changed” (20–21) because “to be for matter is to be *qua* matter” (24–25), that is, matter is such a thing that, if it undergoes a change in any respect, it will no longer be what it is. Plotinus, nevertheless, admits that “matter” partakes of the Good and the Forms “somehow or other” (*ἀμηγέπῃ* [3.6.11.38 (1.323)]), but in a certain way whereby it remains perfectly unchanged. This position is not far from Plato’s implicit distinction between “receiving” and “taking on.”

Although lines 50c4–6 raise no serious difficulties for interpretation, the text evidences possible corruption. An abrupt break in the flow of the text is produced by a sudden shift of subjects; Burnet indicates this by inserting a dash, though such punctuation marks were unknown to early Greek texts: φαίνεται (sc. the Receptacle) δὲ δι’ ἔκεινα ἄλλοτε ἄλλοιον – τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ μιμήματα, τυπωθέντα ἀπ’ αὐτῶν τρόπον τινὰ δύσφραστον καὶ θαυμαστόν, ὃν εἰς αὐθὶς μέτιμεν. The subject throughout the passage is the ἔκμαγειον; now the text suddenly offers a little excursus on the “incomers and outgoers,” although no direct mention has been made so far of any “outgoers.” Worse yet, a fuller explanation of the way (a “wondrous manner that is hard to express”) in which the “things that always are” “imprint” their “images” is promised, but the explanation is never given.⁵⁶ The MSS show that some difficulty has not gone unnoticed, but do little to solve the problem. FY read as Burnet’s text: τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ μιμήματα. A reads: τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ ὄντα μιμήματα (the understood ὄντα is simply supplied); a marginal note in A suggests rather unhelpfully τῶν ἄλλων ἀεὶ μιμῆτά (“are always images of the others”). The words τὰ δὲ εἰσιόντα καὶ

56 Robin 1957, 53, notes: “On est en droit de se demander si c'est un renvoi précis à quelque endroit déterminé du *Timée*, ou si ce n'est pas une allusion à des théories que Platon enseignait à l'antérieur de son école (les ἄγραφα δόγματα d'Aristote), ou enfin si ce ne serait pas tout simplement une façon élégante de se débarrasser d'une question embarrassante”

έξιόντα τῶν ὄντων ἀεὶ μιμήματα are at least ancient; Plotinus quotes them (3.6.11.2–3 [1.322]). But what about τυπωθέντα? Chalcidius read it (formanturque [§ 329 (353.24)]), but there seems to be no earlier evidence. On the contrary Alkinoos, in his *Introduction to the Dialogues*, uses the verb τυπώ and its cognates to refer to “matter” and the ἔχμαγεῖον (§ 8, 18.32 [6.162]; § 13, 25.4 [6.169]), as one would expect, but not to refer to the “images of the Forms.” Plato himself uses the verb τυπώ and its cognates in conjunction with the term ἔχμαγεῖον and its cognates (*Rep.* 396d7–e1; *Lg.* 801d7; cf. Theophrastus, *De Sens.* § 51 [514.1–5]). One would expect both from the context and natural usage that τυπωθέντα should refer back to the ἔχμαγεῖον. I suggest, therefore, that a more suitable reading of the text would be τυπωθέν δ' ἀπ' αὐτῶν,⁵⁷ where αὐτῶν refers not to the “things that always are (ὄντων)” but to ἔκεινα, that is, to the “incomers.” The text would read, then, “⟨the ἔχμαγεῖον⟩ being imprinted by the ⟨incomers⟩ in a wondrous manner that is hard to express, which we shall pursue hereafter.” In this reading, the “wondrous manner” to be explicated is how the ἔχμαγεῖον is imprinted. The imprinting of the ἔχμαγεῖον by “incomers” is an analogy for the formation of the elemental bodies by processes of coming-to-be according to paradigms; Plato will indeed discuss this soon in considerable detail. But if this reading is accepted, the phrase τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ μιμήματα seems to be an entirely parenthetical gloss on τῶν εἰσιόντων at c1. This is precisely my suggestion. This phrase appears to be an early gloss that was eventually incorporated into the text. The gloss was deemed important because many early interpreters, at least according to Plotinus, suggested that the “incomers” were the Forms themselves.⁵⁸ Once the gloss entered the text, τυπωθέν δ' ἀπ' αὐτῶν was altered to τυπωθέντα ἀπ' αὐτῶν, τυπωθέντα referring to the neighboring μιμήματα. I suggest, then, that the text changed in the following manner: the original text

φαίνεται δὲ δι' ἔκεινα ἄλλοτε ἄλλοιον, τυπωθέν δ' ἀπ' αὐτῶν τρόπον τινὰ δύσφραστον καὶ θαυμαστόν, ὃν εἰς αὐθις μέτιμεν.

became

φαίνεται δὲ δι' ἔκεινα ἄλλοτε ἄλλοιον – τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ μιμήματα – τυπωθέν δ' ἀπ' αὐτῶν τρόπον τινὰ δύσφραστον καὶ θαυμαστόν, ὃν εἰς αὐθις μέτιμεν.

which itself became

⁵⁷ Note that the shift in pronunciation of -nt- to -nd- is found in Koine Greek and could have begun earlier (see, Dressler 1966, Shipp 1958). Such a shift, which blurs the distinction between the two sounds, would render a change from τυπωθέν δ' ἀπ' to τυπωθέντα ἀπ' easier. I will suggest, however, that the cause lies elsewhere.

⁵⁸ See 3.6 11.7–8 [1.322].

φαίνεται δὲ δι' ἔκεινα ἄλλοτε ἄλλοιον – τὰ δὲ εἰσιόντα καὶ ἔξιόντα τῶν ὄντων ἀεὶ μιμήματα, τυπωθέντα ἀπ' αὐτῶν τρόπον τινὰ δύσφραστον καὶ θαυμαστόν, δῆν εἰς αὐθις μέτιμεν.

In antiquity the *Timaeus* was Plato's most studied work. It would not be surprising, therefore, that a marginal gloss crept into the text of an extremely obscure passage. Dillon 1989 has identified a few such corruptions in the text of the *Timaeus*.

Although I think that the text should be emended as I have indicated, the received text presents no difficulty for interpretation. As argued above, the expression “incomers” (and therefore “outgoers”) is a metaphor for how the Receptacle is imprinted by the geometrical forms of the elemental bodies. His specific claim is that as the Receptacle takes on consecutively the shapes that give rise to the properties we associate with the diverse elements; it “appears to be changing at different times,” that is, it appears to be now fiery, now watery. Understood in this way, no difficulty remains.

There are diverse opinions about what the “incomers” are. Because the received text identifies the “incomers” with the “images” of the Forms, most commentators agree that the “incomers” represent the formal aspect of things or bodies. There is disagreement over what formal aspects are meant, what bodies are meant, and in what sense these formal aspects are said to “come into” the Receptacle – although most commentators have avoided this last problem. Interpretations of the “incomers” fall into three broad types; the second of these has six sub-types: (1) the Forms, in some sense; (2) forms generated in physical things; (2a) “enmattered forms”; (2b) the geometrical forms of the elemental bodies; (2c) the qualities or characteristics of the elemental bodies; (2d) “visible semblances” of the Forms; (2e) instances of properties; (2f) self-identical characteristics displayed by phenomena; (3) things in general.

(1) In antiquity Plato's talk of “images” of the Forms entering into “matter” was seen to be a discussion of participation in the Forms.⁵⁹ Plotinus, eager to defend “matter's” impassability (see above), argues that the difficulty presented by “matter's” participation in the Forms and discussed here by Plato is not, as many of his predecessors held, “how they [sc. the Forms] come into matter but rather how they are in it” (3.6.11.7–8 [1.322]). The expressions “coming in” and “going out” serve only to indicate, in Plotinus' view, that the way the Forms are present in matter is more superficial, with regard to matter, than the way reflections appear and disappear on the surface of a mirror (3.6.9.16–19 [1.320]). Plotinus, then, seems to interpret the passage to refer to the relation of the Forms and matter in things which are, following Aristotle, composites (*σύνολα*) of form and matter.⁶⁰

59 See Alkinoos, *Eisagōgē* § 10 (22.4–5 [6.166]).

60 Plotinus is probably best placed under (2a) along with Proclus. I place him under (1) because he mentions only Forms.

(2a) Proclus interprets the “incomers” and “outgoers” to be “not only qualities but the enmattered forms ($\tauὰ \varepsilonἰδη \tauὰ ἔννυλα$), since the latter are the likenesses of the intelligibles, but qualities are not” (*On the Timaeus*, 3.357.10–13). Specifically, the “incomers” and “outgoers” are “the form of fire or of water which enters into matter and goes out of it, and being separated from matter, it perishes because of the dominance of the opposite kind” (1.233.27–29). These forms only exist in “matter.” They exist when they have a “seat” in matter; when they are replaced by the form of some other element, they “depart into non-being” (3.357.27–28). These forms are very likely the shapes of the regular geometrical solids which “come to be” in the Receptacle.

(2b) Baeumker 1890, 131, recognizes that the discussion of “incomers” and “outgoers” refers back to 49e7–50a1, and therefore they must be the “special qualities of the elements.” Since these qualities derive entirely from their geometrical forms, these forms are that which “enter,” “are imprinted,” or “come to be” in the Receptacle. Similarly Ross 1924, 1.168, thinks that the “incomers and outgoers” are “geometrical figures” (not to be confused with what Aristotle calls the “intermediates” [see 1951, 224]).

(2c) Cornford 1937, 182–84, rejects the proleptic reference to the geometrical structure of the elemental bodies, but, recognizing that Plato is here speaking primarily about the elements, says that “the things that pass in and out of the receptacle are simply the opposite qualities or groups of qualities characteristic of the four primary bodies” (184). Guthrie 1978, 270 and n. 1, likewise thinks that the “incomers and outgoers” are “only the formal characteristics of earth, air and the rest,” not the elemental bodies themselves, which, he thinks, “are compounded of the copies [μιμήματα] and Space together.”

(2d) Archer-Hind 1888, 45, claims that “the sensible objects of perception are the $\varepsilonἰδη \varepsilonἰσιόντα \kappaαὶ \varepsilonξιόντα$ – the images thrown off in some mysterious way by the ideas and localised in the $\bar{ο}ποδοχῇ$.” These “images” “must be distinguished (logically, for they are never actually separable) from the material objects which they inform; these objects are $\varepsilonἰσιόντα + \varepsilonχμαγεῖον$ ” (177). The “incomers” are the formal aspect of things in general, the various attributes that they display.

(2e) Crombie 1963, 2.304, argues that the “incomers” are “not physical things but the properties or rather instances of properties whose occurrence in a given bit of extension creates what we call a physical thing.”

(2f) Cherniss 1954, 128–29, makes the “incomers” the “self-identical characteristics” which are neither qualities nor phenomena. This view has been discussed above.

(3) Robin 1957, 52, and Taylor 1928, 324, think that the “incomers” are just things; as Taylor puts it (rather darkly): “they are the $\gammaιγνόμενα$ or events of the passage of nature, actual sensa, what the plain man calls ‘things.’”

Interpretation types (1) and (3) are implausible. Against (1) Plato says explicitly that Forms do not “go” into anything and are not in anything (52a3, b3–4).

I have argued against (3) above. Type (2), with the possible exception of (2f), interprets the passage to be an analysis of physical things into body, matter, or space – depending on the view – and form. (2a–2c) understand Plato to be speaking primarily, and perhaps solely, of the formation of the elements; (2d–2f) understand Plato to be speaking of the formation of things in general. If Plato is speaking about the formation of things in general, he has suddenly and without notice changed the subject of the passage beginning at 49b1. This is not impossible; indeed, one might argue that Plato moved to the subject of things in general when, at 50a2–4, he mentions all opposite properties. I have, however, argued above that the mention of opposite properties is meant to support the claim he made about the elements, not to introduce a broader claim. It is at least certain that Plato's primary concern here is with the coming-to-be of the elements, but it is by no means certain that he intends a broader claim. I have argued against (2c) above: it is not impossible that Plato uses a kind of prolepsis, and furthermore, since the special qualities of the elemental bodies are reducible to their shapes, the “coming to be” of these shapes should be Plato's concern. The “incomers,” then, are most likely the “coming to be” of the various geometrical shapes, as I have argued above.

The Mother Analogy

I have been arguing that Plato asks us to conceive of the Receptacle as a “that in which” because this figure best conveys the claim that the Receptacle is distinct from what it receives or what is “in” it. I have also argued that the notion of being “in” can suggest a stronger form of separation than Plato actually wishes to claim. That Plato does not think that elemental coming-to-be is “in” the Receptacle strictly as a body is “in” a place is made evident by the discussion of how the “incomers” affect the Receptacle. Plato, therefore, argues for a weaker form of separation. But if an observed element is, as is now suggested, a part of the Receptacle “being moved and shaped” (50c2–3) in a certain way, it may seem that even the weakened separation for which Plato has been arguing has begun to collapse. This is one reason why Plato reintroduces, time and again, the claim that the Receptacle is a “that in which,” and then proceeds to make a further claim that suggests to us that the separation claim is not like that of body “in” a place. In Chapter Two I mentioned that the figure “that in which” is attractive not simply because it suggests separation, but also because the separation it suggests entails that the process that is “in” the third Kind is unhindered by being “in” it. One might say, metaphorically, that there is room for the process to occur. But not just room. The process of coming-to-be is, furthermore, nurtured, one might say, by being in the third Kind. Plato argues for these points with respect to the Receptacle in the Mother Analogy.

(50c7–d4)

For the present, then, it is necessary that three Kinds (*γένη*) be conceived: that which is coming to be, that in which it comes to be, and that from which (οὗτος), taking a likeness, what comes to be springs up⁶¹. And indeed it is proper to liken what receives (τὸ δεχόμενον) to a mother, that from which to a father, and the nature between them to an offspring.

The argument from elemental change, a central step of which is the τοῦτο – τὸ τοιοῦτον distinction, distinguishes between elemental processes of coming-to-be and the Receptacle. Plato now reminds us that the distinction is not twofold but threefold: we must concern ourselves not only with changing states of affairs and that in which they occur but also with the Forms toward which these changing states are directed or, put another way, the Forms that the processes of coming-to-be “imitate.” There are three factors in elemental coming-to-be, not two. Plato mentions the Forms – that is, the Forms as paradigms that are relevant to elemental coming-to-be – now because he will immediately argue that the Receptacle has a “nature” or the property such that it is as well suited as possible for the reception of the forms that the elemental bodies have. This property is to be form-neutral.

The first factor is the paradigm or “that from which” the image “comes to be.” The relation of paradigm, image, and receiver is compared to the biological relation of father, offspring, and mother: when the mother “receives” the father’s seed the offspring “comes to be” in her. To make the desired point by his analogy Plato makes reference to a theory of procreation that is mentioned by Aeschylus⁶² and was held, according to Aristotle, by “Anaxagoras and other writers about nature,”⁶³ namely that the mother contributes only a “place in which”⁶⁴ and nurturing to the conception and growth of the fetus. The contemporary medical opinion was apparently that conception was the product of both male and female sperm;⁶⁵ Aristotle ascribes to a somewhat modified version of the two parent theory.⁶⁶ Plato’s analo-

61 Or, is born: φύεται, but without the connotation that what is “born” is thenceforth separated from the mother.

62 Apollo, in the *Eumenides*, adduces the theory to support his case that Orestes’ murder of his mother should be pardoned: “A mother is not the begettor of the so-called child but the nurisher (τροφός) of the newly sown embryo. The male begets, but she is like a stranger [or, host] that has preserved an offspring for a stranger” (658–61).

63 GA Δ 1. 763b31.

64 GA Δ 1. 763b32–33: γίγνεσθαι τε γάρ ἐξ τοῦ ἄρρενος τὸ σπέρμα, τὸ δὲ θῆλυ παρέχειν τὸν τόπον (“for the seed comes to be from the male, but the female provides the place”).

65 See the Hippocratic treatise *On Generation* § 4–7 (in Lomé 1981, 123–33).

66 Mixture of sperm from the male and the analogous menstrual fluid from the female are required for conception (GA A 19). The modification is that the male component corresponds to the “first or proximate cause of motion to which the λόγος and the εἶδος belong,” while the female corresponds to “the matter (ὕλη)”; therefore the male is “better and more divine” (GA B 1 732a4–10). Even though both male and female contribute equally to the conception, what they contribute is quite different.

gy, in contrast, refers to a theory of genesis where the mother's role is simply to be a "that in which."⁶⁷ As such, the mother only nurtures what the father introduces, adding nothing of her own in the way of seed; this is not, however, to say that the mother adds nothing at all. When one applies the analogy to the elemental bodies, it suggests that the form of the element that comes to be in the Receptacle is derived from the Form or paradigm while the Receptacle adds nothing at all in the way of form but only nurtures its coming-to-be. If the Receptacle is to add nothing in the way of form and is not to obstruct the reception of a form, it must itself be form-neutral. This is precisely what Plato will argue next.

The Mother Analogy is a step towards the central claim that the Receptacle is form-neutral; it also introduces a further claim, that the coming-to-be of the elemental bodies is nurtured by the Receptacle somewhat as an embryo is nurtured in a mother. Plato, however, does not give any indication of the sense in which the metaphor applies to elemental coming-to-be. Assuming that Plato had in mind the embryological theory discussed above, the mother would not be a source of form but would be a source of material for the growth of the embryo. The mother, then, would not just be a "place" in which the embryo could grow, but, unlike a place, would also provide the material used in growth. In this manner the Mother Analogy seems to suggest that besides being a "that in which" Plato conceived of the Receptacle as a "that out of which" as well, that is, as the material of the coming-to-be of the elements. Is this in fact the case?

A full answer to this question can be given only after Plato's theory of the triangles has been discussed. This is the subject of Chapter Four. In brief, Plato carefully avoids speaking of the Receptacle as a "that out of which" because the Receptacle "receives" the coming-to-be of the elements. The elemental bodies are constituted of triangles. Therefore the triangles are the "that of out which" for elemental coming-to-be. To say, then, that the Receptacle is a "that out of which" would confuse Plato's careful account of elemental coming-to-be. It might, however, be the case that the Receptacle is "that out of which" the triangles come to be. Were this the case – I shall not argue for it here – we could have an explanation of the "nurturing" metaphor. A mother nurtures an embryo both by providing a "place" or environment in which it can grow and by supplying the raw materials for growth through the blood. The raw materials for elemental coming-to-be are the triangles. If they come to be "out of" the Receptacle in some way, the Receptacle could be said to be the source of them and thus "nurture" the coming-to-be of the elements.

Aristotle's theory of embryology seems to show some correspondence with Plato's discussion of the Receptacle. Cf. *Met.* A 6. 988a5–8 where Aristotle compares the form-matter relation to male and female and then refers to Plato's expression μητήρα.

67 Cf. 91b6–d6 where the womb's role is said to be one of nurturing only. Turbayne 1976 goes rather too far in taking the Receptacle as a literal womb.

A final point. The mother, father, child analogy could be misleading if one were to suppose, on its basis, that the process of coming-to-be takes on a separate existence once having occupied the “mother.” To prevent this inference Plato says, awkwardly, “and the nature (or, kind) between them to an offspring” (d3–4). He says “between ($\mu\varepsilon\tau\alpha\xi\gamma$) them,” not “from them,” so that the three be considered all at once, not chronologically separated as in father-impregnation, mother-gestation, offspring-birth. On the other hand, the analogy with a mother is also meant to support the claim that the Receptacle does not come to be as a result of “receiving” form; it remains what it is just as a mother does.

The Receptacle, which receives Form, must be formless

(50d4–e5)

And *<it is necessary>* to understand that if there is to be an impression that presents all the diversities of a diverse *<thing>*, that in which the impression is fixed cannot have been well prepared unless it is without form ($\bar{\alpha}\mu\varrho\phi\nu$), having none of the characters ($\iota\delta\varepsilon\omega\nu$) that it might be about to receive from somewhere. For if *<that which receives>* resembles any of the *<things>* that come in upon it, then when things of the opposite and of a quite different nature come, it would take *<their>* resemblance badly, manifesting its own appearance ($\bar{\o}\psi\iota\nu$) instead. For this reason that which is to receive in itself all the kinds ($\gamma\acute{e}v\eta$) *<of elemental bodies>*⁶⁸ must also be without any of *<their>* forms ($\varepsilon\iota\delta\omega\nu$)⁶⁹.

The analogical argument here is quite straightforward. What most accurately receives shapes should have as its own none of those shapes it is to receive, just as a board painted black will not receive all colors equally. Why does Plato argue at such length that the Receptacle must be “formless” or form-neutral with respect to the forms it receives? The claim that the Receptacle is good at what it does would not seem to be one for which Plato would argue at such length. The purpose of the argument is, I think, that it prepares the way for the important claim, with which

68 This could mean “all the kinds *<of forms>*” or “all the kinds *<of bodies>*” and not specifically the four kinds of elements. However the expression $\tau\dot{\alpha}$ $\pi\acute{a}vta \dots \gamma\acute{e}v\eta$ seems rather to recall $\tau\dot{\alpha}$ $\pi\acute{a}vta \dots \sigma\acute{a}w\piata$ (b6) and $\tau\dot{\alpha}$ $\pi\acute{a}vta$ (b8), which, I have argued, refer to the elemental bodies, the subject under discussion. Furthermore, it would be strange were Plato to claim that the Receptacle receives “all the kinds of bodies,” since that would imply that it receives bodies of elephants as well as every other kind of body. Why would Plato make such a claim here? The meaning “all the kinds of forms” would also be strange. Does it receive the Forms of justice, temperance? It is much more plausible that “all” refers to the “kinds” that Plato has already specified.

69 The argument suggests the “forms” is the correct translation of $\varepsilon\iota\delta\eta$. Even so, I think it possible that Plato is using the terms $\varepsilon\iota\delta\eta$ and $\gamma\acute{e}v\eta$ are equivalent in meaning (see ch. 2, pp. 37–39). If this is right, the expression $\pi\acute{a}v\tau\omega\nu \bar{\epsilon}\bar{x}t\bar{o}\bar{s}$ $\varepsilon\iota\delta\omega\nu$ would mean “without any of the kinds *<of the elements>*,” that is, the Receptacle cannot be fire or water, etc.

this section concludes, that the Receptacle does not consist of (a) any of the elements or (b) of anything that itself consists of the elements or (c) of anything the elements consist of (51a5–6). As Plato will soon explain, the elements have the shapes or forms of the regular geometrical solids. If the Receptacle consisted of the elements, it would have these shapes. Let us take a small portion of the Receptacle – that there is such a thing see 51b4 – and let us assume, contrary to Plato's claim (a), that this portion consists of fire. This portion would be pyramidal shaped. From the account of elemental change we know that this portion of the Receptacle will quickly come to be another element, say, air. This means that this portion will quickly come to have the shape of an octohedron. But for this to happen the pyramidal shaped portion must "receive" the shape of an octohedron. How could this come about? To say that it would "take the resemblance badly" (50e3) is understating the difficulty. If the portion is fire, is pyramidal, the portion must be destroyed, must cease to be what it is, in order to become water. This raises the Parmenidean specter of something (water) coming to be out of what is not. Let us now assume, contrary to Plato's claim (b), that a portion of the Receptacle consists of a substance composed of various elemental bodies. This portion would have a shape exhibiting a mix of the shapes of its constituent bodies. How could this mix come to be, say, pyramidal? (b) faces more or less the same difficulties as (a), depending on how much fire the mix contains. Finally, let us assume the more interesting case, contrary to Plato's claim (c), that a portion of the Receptacle consists of "triangles." The objections to (a) and (b) are not objections to (c). Plato will soon argue that the elemental solids are formed out of triangles by a process of recombination: pyramidal fire bodies are reduced to their triangles which then recombine into an elemental octohedron. Given (c), the formation of fire or air out of the Receptacle would be equally easy, and further, the Parmenidean worry does not arise. Why, then, does Plato reject (c)? One reason, I speculate, is his claim that earth is not made of the same kind of triangles as the other elements. If, therefore, (c) were granted, it would follow that the Receptacle was a not one thing but two: a mass of half-equilateral triangles and another mass of isosceles right triangles, each "receiving" the coming-to-be of its proper elements. This cannot be right. I shall return to the subject of the Receptacle and the "triangles" in Chapter Four; other reasons why Plato rejects (c) will there be made evident.

The Unguent and Wax Analogies

(50e5–51a3)

Just as in the case of unguents which men devise by art to be fragrant there is first this very *thing*⁷⁰: (I mean) they make the liquid substances which receive the fragrances

⁷⁰ τοῦτ' αὐτό: cf. 49b6, 50d5–6. This means a base that is a "this."

to be as odorless as possible.⁷¹ And those who attempt to take the impressions of shapes in some soft substance do not allow any shape at all to be visible (on it) and begin by making the (surface) as level and smooth as possible. In the same manner as well, then, it is fitting that that which is repeatedly to receive properly over its whole extent⁷² the resemblances of all the (elemental forms (?)) that always are⁽¹⁾ should naturally be without any of (their) forms (*εἰδῶν*).

(i) A textual problem. There are textual suggestions for τῷ τὰ τῶν πάντων ἀεί τε ὄντων inspired by the consideration that τε makes little sense here unless some further point is being made. The Anonymous suggestion τῶν νοητῶν ἀεί τε ὄντων (cf. 37a1) is embraced by Taylor 1928, 329, and Cornford 1937, 186 n. 2, who makes the further suggestion τῷ (τὰ πάντα) τὰ τῶν νοητῶν ἀεί τε ὄντων. Cook Wilson 1889, 91–92, offers πάντων νοητῶν ἀεί τε ὄντων. Stallbaum omits the troublesome τε. Also, as Cornford observes, the word “all” is objectionable as well unless it means simply “all the forms of the four elements.” A straightforward solution to this problem would be to excise the words ἀεί τε ὄντων on the argument that they are an ill-conceived gloss that entered the text along with the gloss discussed above (50c4–5), which inserts reference to “images” of τῶν ὄντων ἀεί. Without the words ἀεί τε ὄντων the text would read smoothly and intelligibly: “it is fitting that that which is repeatedly to receive properly over its whole extent the resemblances of all the (elements) (τῷ τὰ πάντων κατὰ πᾶν ἐαυτοῦ πολλάχις ἀφομοιώματα μέλλοντι δέχεσθαι) should naturally be without any of (their) forms.” As it stands, the received text lacks grammatical and logical coherence. The direct parallel of the conclusion “should naturally be without any of (their) forms” with 50e4 (“must also be without any of (their) forms,” sc. the forms of the elements) helps make it quite clear what the argument wishes to establish. Just as wax has to be perfectly smooth to take an impress properly, so the Receptacle must, over its entire extent, lack all elemental form. Therefore the words “the resemblances of all (...) (τὰ τῶν πάντων . . . ἀφομοιώματα)” should naturally mean “of all the elements.” A few lines later (b6) Plato again speaks of “images” (*μιμήματα*) of the elements, this time directly mentioning the elements. Talk of images or resemblances of the elements might seem perplexing. We have been told that the elemental bodies are members of the second Kind and are therefore “images of paradigms” (48e5–6), and we have been told that the image is formed by the “shaping” of the Receptacle (50c3). So an element is a kind of image. How, then, can Plato speak of an image or resemblance of an element? The easy answer is that Plato is using “element” to refer to the “element itself,” the Form, as in “fire itself”

71 Cf. Theophrastus, *De odoribus* § 18 (28) δεῖ γάρ ἀώδες εἶναι το δεξόμενον (“the (substance) which is to receive (fragrances) must be odorless”).

72 κατὰ πᾶν or, throughout. Although it is not clear in what sense the Receptacle might have “extent,” at 51b4 it is said to have “portions” as well; I shall discuss these points below.

(soon mentioned at 51b8). I suspect that the gloss was meant to clarify this. However, once the gloss was inserted into the text, a worse confusion was created. Putting aside the grammatically impossible τε, a natural reading of τῷ τὰ τῶν πάντων ἀεὶ τε ὄντων . . . ἀφομοιώματα gives the claim that the Receptacle “receives” the resemblances of *all* the eternal Forms, the worry that Cornford noted. This cannot be right. Better, then, to regard ἀεὶ τε ὄντων as a clumsily inserted gloss.

To make his point even more clearly, Plato offers two more analogies, this time ones that are diverse products of “art.” These analogies follow the statement, “For this reason that which is to receive in itself all the kinds (of elemental bodies) must also be without any form” (e4–5). The Receptacle is like a base substance that takes on fragrances or figures. It matters not what the base of unguents consists of as long as it has no odor of its own, can be permeated with the odor of something else, and is a liquid. Likewise it would not seem to matter what the Receptacle consists of; what matters is that it be formless and therefore capable of “receiving” the “resemblances” of the forms of the four elements. But, as just discussed and as Plato will immediately say, to receive these forms it is impossible that the Receptacle consist of any of the elements or of anything that itself consists of the elements or of anything the elements consist of (51a5–6). What substance satisfies these conditions? In working towards an answer to this question Plato here makes the point that such a substance is not wholly inconceivable, for we have no difficulty talking about, conceiving, and employing base substances such as those used by the makers of fragrant liquids and seals.

Conclusion of the Argument

(51a4–b2)

For this reason we should not say (that) the mother and receptacle of the visible and at any rate sensible (thing [or, body]) that has come to be (is) earth or air or fire or water or whatever is composed of them or that from which (ἐξ ὧν) they have come to be. But rather by saying (that) it (is) a sort of invisible and formless kind (of thing) (εἰδος), which receives all, yet which partakes in some very obscure way of the intelligible and is extremely difficult to grasp, we shall not speak falsely.

What is the “visible and at any rate sensible (thing) that has come to be”? This should refer to any given element, since the coming-to-be of the elemental bodies has been the subject throughout. But it might refer to the physical world as a whole in as much as this is composed of the elements. Given the context, however, and what will follow immediately, the former reference is the most plausible.

50b8–51a3 presents diverse arguments in support of the claim that the Receptacle has no form. The form it cannot have is the kind of form that what it receives has. What it receives is the elemental bodies that come to be in it. This entails

that it cannot be identical to any of the elements or any body that is composed of the elements. Therefore it is not like any body in the physical world. Furthermore, it is not a collection of the components of the elements (I have discussed these claims above, p. 110). What, then, is it? Plato's answer suggests that he has asked himself the question and cannot give a clear answer: "it is a sort of invisible and formless kind of thing, which receives all, yet which partakes in some very obscure way of the intelligible and is extremely difficult to grasp" (51a7–b1). If someone held the view that only that which is a tangible body has being, this person would claim that the Receptacle is a fiction. Plato will, then, have to argue against this materialist view. As we shall see, he does precisely this at 51b6 and following. A view to which Plato might be more sympathetic is that only what is intelligible has being. For Plato, at least, intelligibility is linked to form: the Forms are, strictly speaking, the only intelligible objects. Still, speaking less strictly, in as much as sensible objects "imitate" or display Form, they too are, to that extent, intelligible and can be said to "be" something in a qualified way. But the Receptacle, he has argued, has no form. Does it not, then, have being? It appears that Plato would say that the Receptacle had no being (as Neoplatonists did say of matter) if he had claimed that the Receptacle had no form—or intrinsic relation to Form—whatever. But he does not say this. The Receptacle has various properties, is said to be a "nature" (50b6), and is intelligible, if "in a very obscure way" (51b1). The fact that the Receptacle is formless with respect to what it receives makes it intellectually hard to grasp but not entirely unintelligible.⁷³

(51b2–6)

But in so far as it is possible to get at the nature of <this kind (*εἶδος*)> from what has been stated above, one may speak quite correctly in the following manner: on each occasion its inflamed portion (*τὸ πεπυρωμένον μέρος*) appears to be fire, the moistened (*ὑγρανθέν*) <portion> water, and earth, and air in as far as it receives their images (*μιμήματα*).

Taylor 1928, 332, notes that this passage "gives us the conclusion to which the whole argument since the end of 48 has been leading up." The fact of elemental change, Plato has argued, points to the *τοῦτο – τὸ τοιοῦτον* distinction. If asked "What is fire?" we should answer by referring to the "this," the Receptacle of elemental coming-to-be. The reason is first stated to be that only the Receptacle is stable or permanent enough to be the referent of "this." This is not a very satisfying claim because we do not perceive an object to which "this" can refer. The Gold Analogy tries to help us conceptualize the referent of "this." The lengthy argument that follows the Gold Analogy has the stated purpose to demonstrate that the Receptacle has a "nature" that enables it to "receive" form with-

73 Cf Hunt 1998, 79: "The Receptacle is just as intelligible as it needs to be in order to play its assigned role in a system in which the real locus of intelligibility is the Forms."

out hindrance and without adding any further form of its own. This argument indirectly establishes the claim that the Receptacle is affected – affected in the appropriate way – by what it “receives,” that is, by the processes of coming-to-be that occur “in” it. When the Receptacle is temporarily qualified or affected by the process of coming-to-be, it displays the “image” of the Form of, say, fire. The “most correct” way we can speak of fire, then, is to say that it is “the Receptacle being temporarily shaped or qualified in such a way that it displays the image of what it is to be fire (the Form of fire).” In this sense the Receptacle is what we refer to when we use “this” with respect to an element. Because the Receptacle only “appears ($\phi\alpha\iota\nu\tau\alpha\iota$) to be changing” (50c3–4) but does not change *qua* receiver, it is more correct to say that it “appears ($\phi\alpha\iota\nu\epsilon\sigma\theta\alpha\iota$) to be fire” (51b4–5) as it receives the image of Fire-ness. The word “appear” does not imply a “phenomenalist account of the corporeal world,”⁷⁴ but is used to maintain the distinction between the sense in which the Receptacle remains the same and the sense in which it is affected by what it “receives.”

Is this a more satisfactory account of the coming-to-be of the elements? I think it is. We now learn that the fire we observe is actually an “inflamed portion” of the Receptacle, that is, a portion of the Receptacle that has the shape of fire bodies (the “image” of the Form of fire) and, consequently, exhibits the sensible properties we observe to belong to fire. This account of fire parallels Plato’s account of subjects, such as Socrates, that have properties, such as shortness. Talk of subjects and properties is neither counter-intuitive nor difficult to grasp.

But, it may be objected, such an account of the elements renders them less intelligible, not more. It does so, the objection claims, because of the following argument. We think something is, say, fire because this thing has such and such properties; we think fire just is what has these properties. Plato now tells us that fire is actually a portion of the Receptacle – which we do not perceive and cannot clearly grasp with our minds – that is affected by these properties without being changed. So what we are calling fire is merely properties, while the subject of these properties escapes our understanding. In as much as we do not grasp the subject, we fail to understand what fire is. The core of this objection lies in the worry that Plato seems to have made the subject of an element’s properties separable from those properties. The objector also distinguishes between sensible properties and the thing that has these properties. But the objector claims the subject’s separability is merely conceptual. Now, any subject considered apart from its properties is inscrutable. So an account that recognizes the subject – property distinction increases unintelligibility to the degree that it claims separability for the subject. Only a bundle theory of objects (which dispenses with the subject altogether and claims that things just are a collection of sensible properties) completely escapes the difficulty raised by distinguishing subject and

⁷⁴ Taylor 1928, 332.

properties. Plato, evidently, does not argue here for a bundle theory of objects, and he does distinguish between the Receptacle and what it "receives." How strong is this distinction? Is it much stronger than the objector's? Plato argues for the claim that fire is a something that has a certain shape or form. The sensible properties of fire result from the physical form. So for Plato these properties are what we might call secondary properties; as such they do not define what fire is. The primary property of fire is physical form. The question then becomes, what degree of separation is claimed between the physical form and the (portion of the) Receptacle that is shaped by it? I think the answer is that, in so far as what I am now pointing at is *fire*, no separation is claimed. The fact that the fire can cease to be but the Receptacle will persist to be shaped anew does not entail that, while fire exists, the Receptacle is separable from the fire in any sense that is not merely the result of a conceptual distinction. In fact, the Receptacle seems to be hidden from our experience precisely because of its inseparability from the elements (or, elemental properties) that we do experience. If no separation is claimed, Plato does not render the elements less intelligible by positing the Receptacle.

Perhaps it will be helpful to adduce a modern theory that parallels in a way Plato's account. The particle physicist David Bohm proposed the theory, following Gribbon 1995, 159–60, that "the basic underlying order of the world consists of a field made up of an infinite number of overlapping waves, and that the overlapping of the waves produces local effects which we perceive as particles." So the particles of which atoms consist are just local effects of the overlapping of waves that constitute a field. By this theory one could give an account of an atom Q by saying that Q is a region or "portion" of the field that manifests such and such local effects. Surely by referring to the field in our account of Q we have not introduced the claim that the Q consists of something that is separable from it, so rendering Q less intelligible.

It may be that Plato's definition of elemental bodies as qualified "portions" of the Receptacle is a polemic against Democritean atomism. Atomism claims that the world is made up of discrete, indivisible, indestructible bits of something and void. These bits are self-subsistent beings separated by void, a kind of non-being.⁷⁵ Plato's elemental bodies are not self-subsistent beings precisely because they are merely qualified "portions" of the Receptacle. Further, they are divisible into "triangles," they are therefore destructible, and they are not separated by void – since there is no such thing – but by other elemental bodies and their constituent "triangles." The true self-subsistent beings are the Forms that physical things "imitate," not the bodies out of which they are formed.⁷⁶

75 The status of the atoms as "beings" seems to be a response to Eleatic arguments. See esp. Furley 1987, 117–27.

76 In his *Academica* Cicero records Antiochus' brief account of the "Greeks'" conception of matter.

Plato will now make what he acknowledges to be a lengthy digression that re-introduces and employs the distinctions made at 27d5–28a4 and 48e4–49a6 between two and then three Kinds as a polemic against those who claim that the sensibles are all that really has being. This position may have some connection to the atomist claim mentioned above that the atomic bodies, their compounds, and their absence (i. e., void) are all that there is. Because the polemic employs the distinction of three Kinds, it may indicate a further reason why Plato distinguishes three Kinds; that is, he may see the distinction as the basis of a strong argument against materialism. The digression extends from 51b6 to 52d1. At 51d3 Plato says emphatically that he will give a short account of his own “verdict” ($\psi\eta\phi\nu$), at 52d2, he recapitulates what “has been inferred by my verdict ($\psi\eta\phi\nu$).” Because this passage contains the much-discussed reference to $\chi\omega\rho\alpha$, commentators generally content themselves with discussions of the same and fail to mention the polemical context in which this reference occurs.

A digression: Against those who say that only the sensibles are real

Plato has just stated what he takes an element to be: the Receptacle shaped or qualified in a certain way. This account of the elements attributes to them a certain concreteness or stability in as much as Plato has argued that the Receptacle must be included in an account of what the elements consist in. But stability is, for Plato, a characteristic of being. Therefore the claim that the elements, *qua* being qualified portions of the Receptacle, have some stability may suggest that the elements, and the sensibles formed out of them, are beings after all, that they are, properly speaking, real. This consideration is cause for Plato to clarify his position somewhat on the question of the reality of sensible objects in general. To do so he adduces the following materialist view, which I shall refer to as (A): real fire, or “fire itself of itself” ($\pi\nu\rho\ \alpha\dot{\nu}\tau\circ\ \dot{\epsilon}\varphi\ \dot{\epsilon}\alpha\dot{\nu}\tau\circ\bar{\nu}$), is precisely what we experience; the general claim of this view is that only what can be perceived, that is, sensible body, is a being. Then, in opposition to this view, Plato puts forward a second view, which I shall refer to as (B): real fire, “fire itself of itself,” is the

This account may be Stoic and may derive from Posidonius' commentary on the *Tim*. Antiochus (through Varro) says: “The (Greeks) say that a sort of matter underlies (subiectam) all (the elements) which is without any form and devoid of all – what they call – ‘quality’ . . . of which all (the elements) are modeled and formed, which alone can receive all (the elements) and be altered in every way and over its whole extent and even suffer dissolution, not into nothing, but into its parts, which can be cut up and divided – since there is no minimum whatever in the nature of things that cannot be divided” (1.27 [12]). This account combines the Aristotelian theory of infinite divisibility, or continuum, with what Plato says about the Receptacle. Infinite divisibility of the “parts” of matter elaborates Plato’s second argument against the Atomists, namely, that the elemental bodies are divisible into triangles and the triangles are not necessarily indivisible.

"intelligible form" (*εἰδος νοητόν*) that the mind grasps and that sensible things "imitate." The general claim of this view is that what has being, properly speaking, is intelligible form.⁷⁷

In what follows Plato makes a two-stage argument against (A). Stage One (I) is epistemological. Plato finds that a central premise of (A)'s argument is epistemological. Because of this (I) seeks to refute this epistemological premise. Stage Two (II) concerns physics, that is, the physical world, and relevant metaphysical distinctions. Plato here discusses a second central premise of (A)'s argument, one that concerns physics. Briefly, Plato argues in (I) that (A) is just wrong and in (II) that (A) has not grasped the significance of its physical premise. The result of Plato's two stage argument is that (A)'s "real fire" is scarcely real at all, and what reality sensible fire does have is to be found in things that (A) rejects or misconceives or entirely ignores. If successful, this constitutes a rather strong argument against the kind of materialist view that Plato seeks to refute. In the discussion of (A) that follows I treat (A), for the most part, as an argued view employing definite claims as premises. I do so largely for clarity's sake. (A) may in fact be for Plato no more than the common man's unthinking materialism. Such a weak form of the view would hold the epistemological and physical premises as unargued assumptions.

I. The epistemological argument

(51b6–e6)

As we are making determinations about the <elements> we should consider the following point rather by argument: is there any <fire that is> fire itself of itself and all <of the other elements> about which we are always speaking in this manner, (namely that) each one is what it is in itself? Or these things which we also see, and as many other things that we perceive through the body, are they the only ones to have this kind of truth,⁷⁸ and besides these no other <things> have being at all in any fashion, but in vain we say on each occasion that there is some sort of intelligible form (*εἰδος*) of each <thing>, and this is nothing but talk?

77 (A) seems quite similar to one phalanx of combatants in the Gigantomachia in the *Sph.* These "giants" "insist that only that is <something> which offers resistance and can be touched, and they determine that body and being (*οὐσίαν*) are the same" (246a9–b1). They are opposed by "the friends of the Forms," whose view is in some respects similar to (B). The Friends "zealously maintain that true being is the intelligible and bodiless Forms" (246b7–8). The Friends "break apart the 'bodies' of the others and their so-called truth into small bits in their arguments and instead of 'being' they call <bodies> a kind of moving process of coming to be (*γενεσιν . . . φερομένην τινα*)" (246b9–c2). If one were to claim that the *Sph.* was written after the *Tim.*, one might argue that this was an allusion to the position taken in the *Tim.* The general view of the Friends, however, is one that Plato rejects.

78 What kind of truth? *τοιαυτήν* refers back to the expressions "of itself" and "in itself"

Now it does not seem right to dismiss the present *(question)* without trial or verdict and maintain that "It is simply thus!" nor should we insert a lengthy digression into a discussion that is already long. But if one could express a great matter in a few words by making an exact distinction, this would be extremely opportune. My own verdict, then, is the following. If intelligence [or, mind: *νοῦς*] and true opinion (*δόξα ἀληθής*) are two *(different)* kinds (*γένη*), then the Forms⁷⁹ that cannot be perceived by us but are only objects of intelligence are certainly things that are of themselves. But if, as it seems to some, there is no difference between true opinion and intelligence, then we must posit as things that have certainty (*βεβαιότατα*) whatsoever we perceive through the body. Now *(intelligence and opinion)* should be said to be two *(distinct kinds)*, because they have come to be and operate in different ways. The former of them [*intelligence*] comes to be within us by means of instruction, but the latter [*opinion*] comes to be by means of persuasion. *(Intelligence)* is always accompanied by a true account; *(Opinion)* lacks an account. The former is unmoved by persuasion, whereas the latter can be won over. It must be allowed that every man partakes of *(opinion)*, but intelligence is partaken of only by the gods and a small portion of the race of men.

I shall first discuss (A)'s epistemological premise. Timaeus says, "If, as it seems to some, there is no difference between true opinion and intelligence, then we must posit as things that have certainty whatsoever we perceive through the body" (51d5–7). Plato tells us that those who hold (A) hold as a central premise that "there is no difference between true opinion and intelligence." Accepting this premise it follows, (A) holds, that sensibles "have certainty." The argument for this claim is absent. Perhaps it is, in Plato's view, this. (A) assumes that we in fact have knowledge of things. To have knowledge is to know what is true about something. If truths can be known about a thing, that thing must be epistemologically stable, it must "have certainty." Therefore objects of knowledge will "have certainty." (A) refuses to distinguish between true opinion and intelligence (Plato's terms). This implies that in (A)'s view there is just one form of right thinking that goes on in the soul; this single form of right thinking constitutes knowing. True opinion has sensibles as its objects (cf., e. g., 28a2–3); it is ultimately about sensibles. Therefore, since right thinking (as being one in form) always includes what is called "true opinion," our thinking always has sensibles, either directly or indirectly, as its objects. But in so far as our thinking rightly about these objects constitutes knowing these objects, these objects have "certainty." (A) therefore "posit[s] as things that have certainty whatsoever we perceive through the body." But (A)'s claim is not just that the objects of sensation are real, but further that they are the *only* real things. As will become evident in the Stage Two of the argument, (A) thinks that (B)'s beings (the objects of intelligence) are nothing at all. This further claim would seem to follow from the

79 *εἶδον*. Though "Forms" is a quite plausible translation, Plato may mean only the "kinds of things" that are objects of intelligence, not sense.

argument just stated. If what is real is what is known, and if the only objects of knowledge are those which include an empirical base, there can be no objects of knowledge that are “only objects of intelligence” that “cannot be perceived,” and are purely “of themselves” (51d4–5), as (B) holds.

It is not clear whether (A) is a historical view, that is, a view held by certain thinkers, or it is merely a generalized materialist view. But we do know, thanks to Aristotle, of a materialist view that (at least in Aristotle’s understanding) holds an epistemological premise that is quite similar to the one that Plato attributes to (A). Aristotle attributes to Democritus the view that “all *< sense >* appearances are true” (*DA* Γ 3.427b3; *Met.* Γ 5.1009a11–15). His argument that Democritus held this view seems to be the following. (i) If intelligence (*νοῦς*) is the faculty that grasps the truth and (ii) soul (*ψυχή*) comprises the faculty of sense perception, among other faculties, but (iii) Democritus claims that intelligence and soul are the same (*DA* A 2.404a27, 405a9), it follows for Democritus that (iv) sensing and thinking are basically the same activity (cf. 427b6–7) and therefore (v) that sense perceptions are operations of the truth finding faculty and are (vi), as such, true.⁸⁰ According to Aristotle Democritus held that perceiving and thinking are not distinct activities in as much as he did not distinguish between soul and intelligence. Democritus may not have thought this, but it seemed so to Aristotle, and it may have seemed so to Plato if Plato was familiar with Democritus. The claim that perceiving and thinking are not distinct activities could be easily translated by Plato as “there is no difference between true opinion and intelligence.” If Plato had known this about Democritus, he would also have known that Democritus held that there is just body and void, which, for Plato, would amount to the claim that the only real fire is the fire that we experience (that is, [A]). I am not claiming that Democritus is an unnamed opponent that the Digression seeks to refute, that is, I am not claiming that (A) is what Plato takes to be Democritus’ view. Plato may have had Democritus in mind, but I think he had in mind many others as well. (A), in Plato’s view, may include unthinking empiricists who just assume that all there is is what our senses inform us of. At any rate, I am claiming only that (A) was a view that may have seemed coherent to some thinkers and may also represent Plato’s analysis of the common man’s materialism. This would have given Plato ample reason to digress to refute it.

In Stage One Plato argues that if the materialist opponent accepts that intelligence and true opinion are two distinct kinds of mental operations, it follows that their objects will be distinct kinds of things. But the objects of intelligence are not sensibles. Therefore it is not the case that only sensibles are beings. But (A) does not accept the proposed distinction between intelligence and opinion. There-

80 My thoughts about Aristotle’s view of Democritus have been helped by discussions with Mi-kyoung Lee. For a recent discussion of Presocratic views that seem to identify intelligence and sense perception see Laks 1999.

fore Plato attacks the premise that there is no difference between intelligence and (true) opinion. He argues, perhaps somewhat too succinctly, that "intelligence," the exercise of our highest mental faculty, is or falls into a different "kind" than "opinion," i. e., thinking that bases its conclusions on sense data. Intelligence, he says, "comes to be" in us by instruction, is accompanied by a true account, is unmoved by persuasion, and is possessed by few. Opinion, on the other hand, "comes to be" by persuasion, is not accompanied by a true account, is won over by persuasion, and is possessed by a great number. It follows that intelligence and true opinion are "two kinds." This entails, as has been pointed out, that each will have its own objects and, further, that these objects will therefore also be two different kinds of things. It is not immediately evident that, given the stated differences between intelligence and opinion, they are necessarily "different kinds" and, furthermore, that this entails that their objects are so as well. It could be the case, given the stated attributes of each, that "intelligence" is merely thinking about something carefully, while "opinion" is thinking about the same thing with less care. Timaeus' case for the distinction is not a strong one. Furthermore, how does it follow that "the Forms that cannot be perceived by us but are only objects of intelligence are certainly things that are in themselves" (51d4–5)? Why *must* the objects of intelligence be "things that are in themselves"? Here Plato may be assuming that the reader is familiar with more rigorous arguments that make the same basic claim, such as ones in the *Phaedo* (74a9 ff) and the argument against the Sight-lovers in the *Republic* (475d1 ff), where it is argued, among other things, that "if a different power is set over something different, and if knowledge and opinion are both powers and each are different, as we said, then it is not possible that what is the object of knowledge and what is the object of opinion are the same" (478a12–b2). Indeed, the dialogue of the *Republic* occurred, dramatically speaking, only "yesterday" (20b1, c6). Even so, a more direct reference is probably made here to Plato's first distinction of the two Kinds at 27d5–28a4, which, for Timaeus' argument, is regarded as established.

Timaeus claims that intelligence and true opinion are "two kinds" (51d4). The demonstration of this constitutes a refutation of (A)'s epistemological premise. It also sets up Stage Two of the argument against (A). It does so in the following way. Timaeus claims that the fact that intelligence and true opinion are "two kinds" entails that its objects are distinct as well. Timaeus has already argued that "what is apprehended by intelligence with the help of reason" is a different "kind" from "what is opined by opinion with the help of unreasoning perception" (28a1–3). This was the distinction of the two Kinds. The reintroduction of the two Kinds, beyond constituting a refutation of (A)'s epistemological premise, is a preliminary for the reintroduction of the distinction of three Kinds. Three Kinds are reintroduced in service of the argument against (A), as I shall attempt to show in what follows.

II. The physical argument: Reintroduction of the distinction of three Kinds

(51e6–52b5)

These things being so, it should be agreed that one is the kind that is the same, is ungenerated and indestructible, does not receive into itself anything else from anywhere nor does it go into something else somewhere, is invisible and otherwise not perceptible, (and is) that, in fact, which intelligence has received (as its object) to examine; (that) the second (kind) has the same name as and is similar to that (first one); it is perceptible, generated, always carried about, comes to be in some place (*τόπῳ*) and again away from there perishes, and is apprehended by opinion with perception; and further (that) a third is always the kind of *χώρα*, which does not admit destruction, which provides a place (*ἔδραν*) to as many (things) as have coming-to-be, which itself is grasped by a sort of bastard reasoning with absence of sensation, which is scarcely an object of certainty, towards which we in fact turn in a dream state⁸¹ and say that all being (*τὸ ὅν ἄλαν*) must necessarily be somewhere in some place (*τόπῳ*) and occupy some *χώρα*, and (that) that which is neither on earth nor somewhere in the sky is nothing.

At 48e3–49a6 Plato introduced the metaphysical distinction of three Kinds to provide a conceptual basis for his discussion of the Receptacle, a member of the third Kind, and elemental genesis. Plato now reintroduces the distinction of three Kinds, but for quite a different purpose. It now serves in an argument against the materialist view (A). The central premise of (A) to which Plato now directs his argument is that “all being (*τὸ ὅν ἄλαν*) must necessarily be somewhere in some place (*τόπῳ*) and occupy some room (*χώραν*)” (52b4–5). Because the reintroduction of the distinction of three Kinds serves a different purpose, the attributes of the three Kinds are somewhat differently stated. The purpose of the reintroduction is to refute (A)’s premise that “all being must necessarily be somewhere in some place.” Therefore the restatement of the attributes of the three Kinds adds reference to place, as I shall show below. But before I proceed to this I wish to discuss (A)’s physical premise.

The materialist view (A) seems to make something like the following argument to support the claim that only sensible bodies are beings (I shall discuss the argument in greater detail below): everything that has being is necessarily in some place and occupies some room. Only bodies (i. e., sensibles) are in a place and occupy room. Therefore only bodies have being. This argument could be employed in the following form against (B), that is, against those like Plato who hold that separate, intelligible Forms are beings. If Forms are separate, they either are in a place and occupy room or they do not. If they are in a place and occupy room, they are bodies and not separate. If they are not in a place and do not

⁸¹ προς ὁ δη και ὀνειροπολούμεν βλέποντες. βλέπω . προς is often used of objects that “face” in a certain direction (see LSJ, s.v. βλέπω II.2). On ὀνειροπολούμεν see below

occupy room, they do not have being, since everything that has being is necessarily in some place and occupies room. Therefore there are no separate Forms.

(A)'s physical premise is given in the form "all being ($\tauὸν ὄνταν$) must necessarily be somewhere ($εἰναι πον$), in some place ($ἐν τινὶ τόπῳ$), and occupy some room ($χατέχον χώραν τινά$)" (52b4–5). To begin with, I take the expressions "be somewhere," "be in some place," and "occupy some room" to be equivalent in meaning. The general expression "be somewhere" is specified as "be in some place," to which "occupy some room" is joined by an epexegetical $\chi\alpha\iota$. The precise meaning of the term $χώρα$ (which I translate for the moment as "room") here has been often treated (see above, ch. 1, pp. 24–26);⁸² I shall discuss the use of $χώρα$ and $τόπος$ below. The verb "occupy" ($χατέχω$) is used with $χώρα$ to emphasize the physicality of (A)'s premise, as when an army is said to "occupy a region." So (A) claims that to "be somewhere" is to "be in a place" and this means physically to "occupy" it. This kind of "being in" only applies to bodies.

The general claim that "everything is somewhere" seems to have been widely held as a kind of truism. We know that Zeno was quite interested in the claim. The anonymous author of *De Melisso Xenophane Gorgia* mentions that Zeno, in his treatise on $χώρα$, said that "that which is nowhere is nothing ($μηδαμοῦ δὲ ὄν, οὐδὲν εἶναι$)" (979b25–26).⁸³ Aristotle, in his discussion on place in the *Physics*, worries at length over one of Zeno's paradoxes that was designed to show that there cannot *be* such a thing as place. Aristotle abbreviates Zeno's argument thus: "If all that has being ($πᾶν τὸν ὄν$ [cf. $\tauὸν ὄνταν$ (52b4) above]) is in a place ($τόπῳ$), it is clear that there will be a place of a place, and this to infinity" (*Phys.* Δ 1. 209a24–25; cf. 210b23: "if there is place, it will be in something"). Aristotle's commentators provide several fuller versions of Zeno's argument. Simplicius quotes Eudemus' paraphrase of the argument: "Zeno's paradox also seems to make the same point. 'It is appropriate that all being be somewhere ($ποὺ$). If place ($τόπος$) belongs to the things that are, where will it be? Doubtless in another place, and that in another, and so on'" (*On Phys.* 563.17–20). Simplicius' own version is somewhat expanded: "If there is place, it is in something ($ἐν τινὶ$), for all being ($πᾶν γὰρ ὄν$) is in something. But what is in something is in place ($τόπῳ$). Therefore place will be in a place, and this to infinity. Therefore

82 For a good treatment of the terms $χώρα$ and $τόπος$ see Algra 1995, 33–38. He summarizes his investigation as follows: "(1) The terms *chora* and *topos* could in a number of contexts be used interchangeably both in ordinary Greek and in their philosophical applications, though in other contexts the one or the other might be preferred (*topos* in order to denote relative location, *chora* in order to denote a larger extension than *topos*.) (2) The rules governing the choice between *chora* and *topos* did – contrary to what is usually suggested in the scholarly literature – not always run parallel to the rules governing our choice between 'space' and 'place' so that 'automatical' translations have to be rejected" (38).

83 Cf. the *Phd.*, where Cebes describes a materialist view of the soul according to which at death the soul is "nothing any more being nowhere ($οὐδαμοῦ$)" (70a6–7).

there is no place (lit. place is not)" (*On Phys.* 562.3–6). Philoponus' version is as follows: "If all beings are in place (τόπος), as it seems to some, and if place is among the things that are, then place will be in place, and again that (place will be) in another (place), and this to infinity" (*On Phys.* 510.4–6). All these versions have the same structure. (1) all being is somewhere (Eudemus); is in something (Simplicius); is in place (Philoponus). (2) place is something that is. (3) therefore place is in place. (4) that place will be in another place, and so on to infinity. From this it follows that (5) place is not something that is (Simplicius [= not (2)]; Aristotle takes the paradox to show this). But (5) entails (6) all being is not somewhere (in something) (= not [1]), because Zeno's argument interprets the general claim the "everything is somewhere" as "all being is in something, namely, in place," and, by (5), there is no place. Aristotle, accordingly, attacks the claim that "to be in something" is equivalent "to be in a place" by arguing that there are many senses of "being in" (210a14–24). As Simplicius puts it: "If 'to be in' is uniquely said with reference to being in a place, Zeno's paradox would be insoluble, if it is in fact the case that all being – whether that which is *simpliciter* or physical being – is in something, as all the ancients thought" (562.11–13). We should note that Simplicius then goes on (562.14) to refer to the present passage of the *Timaeus*. In Simplicius' interpretation of Plato, the words "towards which we in fact turn in a dream state and say that all being must necessarily be somewhere" refers to the view of "all the ancients."

Returning to Zeno, he can be interpreted to have refuted the claim that "all being is in something" by arguing that this is equivalent to "all being is in place," but there can be no place because of the infinite regress. Neither Aristotle nor Plato are as willing completely to abandon the claim that "all being is in something" as Zeno is. Aristotle qualifies the claim by distinguishing different senses of "to be in." Plato has a rather different way of qualifying the claim which I shall discuss shortly. But before doing so I wish to turn to philosophers, among them Democritus, who proposed the notion of void, or "the empty." Aristotle, again, mentions the premise that "all being is in place" when treating the notion of void. "It seems that the void (τὸ οὐκόν) is place in which there is nothing. The reason for this is that they think that being (τὸ ὅν) is body, but all body is in place, and a place in which there is no body is void (empty), so the result is that if there is no body somewhere, there is nothing there. They think, further, that all body is tangible" (*Phys.* Δ 7. 213b31–214a1). And a bit earlier, "But men mean by 'empty' (void) an interval in which there is no perceptible body, (that is) they think that all being (τὸ ὅν ἄπαντα) is body and say that that in which there is nothing at all is empty (void)" (213a27–30). The argument of the "physicists" (φυσιολόγοι [213b1]) who proposed void was, in Aristotle's interpretation: all being is tangible body; all being is in something, that is to say, all body is in place; [place is distinct, separable from what is in it]; if no body is in a place, the place is empty (void); therefore void (τὸ οὐκόν) is place not occupied by body, that is

to say, place in which there is nothing. According to this view all being is body. Further, a central fact about body is that it is somewhere, which is to say that it is in something, namely, place. But place is conceived in relation to body that is in it. If one separates out body, what remains is what is empty, the void. Thus there are two basic principles: body and void. This materialist view can be attacked in various ways. One way would be the following. The materialist view assumes that all being is tangible body. On what basis does it make this assumption? Granting that "all being is in something" was accepted as a kind of truism, the view might support the assumption by arguing: to be "in something" is to be "in place"; what is in place is necessarily (tangible) body; therefore all being is (tangible) body. If the view makes this argument, it can be attacked by challenging the truth of the premise "all being is in something," as Zeno's argument may be interpreted to do⁸⁴ by arguing that there can be no such thing as place, or by challenging the premise that to be "in something" is to be "in place," as Aristotle does. Plato, like Zeno, challenges the premise "all being is in something," but in quite a different way. Given that this premise was central to the materialist argument, a demonstration of the falsity of the premise would constitute a refutation of the argument. It is evident, I think, that the materialist view just discussed is very similar to (A), whose physical, i. e., cosmological, premise is that "all being is necessarily in some place."

Plato attacks the premise "all being is necessarily in some place" with a rather subtle argument. I have just claimed that Plato, like Zeno, challenges the claim that "all being is in something." Further, I have suggested that he, like Aristotle and unlike Zeno, qualifies the claim "all being is in something," but he qualifies it in a very different way. Also, like Aristotle, Plato does not question the truth of the claim that all body is in place. Plato's argument against (A) is, roughly, that the fact that all body is in place does not entail, as (A) thinks, that all being is in place; (A) misinterprets a fact about the world and draws false conclusions about being in general. To establish that (A) misinterprets a fact about the world Plato puts forward an account of place and an account of what is in place. These accounts show that what is in place is not being but what comes to be, and that the necessary relations that what comes to be has both to place and to being proves that it, instead of being "what is," as (A) thinks, scarcely clings to being. This argument qualifies the claim that "all being is in something" by distinguishing between being and coming-to-be and reinterprets "all being is in something" as "all body (or, what comes to be) is in place." One could object that this move

84 What Zeno's paradox was really intended to refute is probably unknowable. I am suggesting only that it could have had anti-materialist application. Zeno may have argued against place because place might be a candidate for there being something besides the one. It could be argued that if the one is, it must be in something and therefore that something, i. e., place, must also be and is distinct from the one (cf. *Prm.* 138a2–b6).

does not qualify the claim at all but changes it because the claim is precisely about being. Plato, I think, would respond that the claim “all being is in something” is not simply wrong, as Zeno argued, but needs qualification: what “being” is needs to be specified. That which is in something, that is, in place, Plato argues, is what comes to be; being, strictly speaking, is not in anything. I think also that Plato, somewhat like Aristotle, does recognize different senses of “being in.” Let the following argument suffice: if “being in” the Receptacle is not identical to “being in” place, as I shall argue in Chapter Five, then Plato recognized different senses of “being in.” But even so, he seems to resist the thought that beings properly speaking, i. e., the Forms, are “in” something.⁸⁵ This is likely because Plato thinks that “being in” is a relation that pertains properly only to bodies. In this he follows earlier thinking on the subject.

Plato claims that (A) misinterprets a fact about the world. The empirical fact under consideration is one of which we are all aware: in our experience everything is somewhere. Let us grant for the moment that to “be somewhere” is equivalent to “be in a place.” All of us, then, are aware that in our experience everything is in some place. So far, we are not mistaken. But we may draw false conclusions from this empirical fact if we misunderstand what sort of thing place is and interpret “everything” to signify “all being” or “all that is.” This is what (A) does. Plato apparently thinks that (A) also extends to the view of many people who unthinkingly conclude that “everything that is is in place,” and further that if something is not in place it is nothing. For this reason Plato uses “we” when he says, “χώρα (place, room) . . . towards which we in fact turn in a dream state and say that all that has being must necessarily be somewhere in some place and occupy some room, and <that> that which is neither on earth nor somewhere in the sky is nothing” (52b3–5). “We” is used to suggest that the misinterpretation of empirical fact on which (A) relies is a common one.⁸⁶ Plato argues that if “we” had rightly understood the nature of place, “we” would not find ourselves holding (A), or a version of (A), because what is in place is not being, but what comes to be.

The expression “in a dream state” (*όνειροπολοῦμεν*), a compound of “dream” and “wander about,” is used by Plato of states of mind in which no clear thinking goes on, specifically when we are confused about reality. For example, in the *Republic* Plato says about the acquisition of knowledge of the Form of the Good:

If someone is unable to make distinctions by argument, separating out the Form of the Good from everything else, . . . you will say that this person does not know the Good itself nor any other good, and if somehow he comes in contact with some image <of the Good, you will say that> he does so by opinion (*δόξη*), not knowledge, and that in

⁸⁵ Note that according to Aristotle Plato denied that the Forms are “anywhere” (*που*: *Phys.* Γ 4 203a7–8)

⁸⁶ Cf. 37e4–5 where Plato mentions that “was” and “will be” are kinds or species (*εἶδος*) of time “which unawares (*λανθάνομεν*) we apply wrongly to eternal being.”

the present life he wanders in a dream state (*όνειροπολοῦντα*) and sleeps (534b8–c7)

The dream state here described is one in which a person has no knowledge of the Good, or any real good, acquired by philosophical work. Such a person may recognize an “image” of the Good, but if she does so it is not by having knowledge but “by opinion.” The objects of opinion are whatever comes to be, not being (534a2–3). So this person “comes in contact with” an object that comes to be, such as wealth or pleasure, and assumes that this object, and its like, are what is good (cf. the “sight-lovers” who cannot accept that there is any beauty beyond what they see [476b4–8]).⁸⁷ The state of seizing an “image” through sense perception and holding it to be what is real is to “wander in a dream state.” Plato uses the verb “to wander in a dream state” in the same way in the *Timaeus*.⁸⁸ With thinking based on sense perception (opinion) “we,” that is, those of us inclined to hold (A), seize upon the empirical fact that all bodies are in place and draw a conclusion about being, mistaking being for what comes to be (the “image”). “We” do so under the influence of a false notion of place, namely, that it is what it is in relation to being, not coming-to-be. To think in this manner is for us “to wander in a dream state.”

In 51e6–52b5 Plato lists distinguishing attributes of three Kinds. In the preceding passage (Stage I of the argument) Plato has already argued that intelligence and true opinion are “two kinds” (51d4) of things with the entailment that their objects are as well. He begins the present passage (Stage II) with the words, “these things being so” (51e6), referring to a distinction between intelligence and true opinion with their objects. It follows, given the distinction, that there are two kinds of things: intelligibles and sensibles. With a view to (A) Plato now lists distinguishing attributes that these two kinds of things have along with those of a third kind of thing. This reintroduces the distinction of three Kinds. It is important to note that in this account of the Kinds the stated attributes of the Kinds are the attributes of their members, attributes that the members have of themselves and in relation to the members of the other Kinds. Plato’s earlier accounts of the Kinds were chiefly concerned with establishing metaphysical distinctions between the Kinds. This account is chiefly concerned with establishing what the attributes of the things, the members, are. The reason for the shift in emphasis is Plato’s argument against (A), which is a claim about things.

87 Cf. 476c4–7: “Consider, isn’t ‘to be dreaming’ (*το ονειρώσττειν*) just this, whether asleep or awake someone thinks that which is similar to something is not similar but is the very thing which the similar thing is like?”

88 For a recent, rather different interpretation of the “dream” see Sallis 1999, 121–24, 153–54. Sallis thinks that place (*τοπος*) is the dream image of *χωρα*, which he thinks is a term that is “intrinsically untranslatable” (115) because it refers to something which “can only be in a sense of being that exceeds being, in a sense of being that is beyond being” (113).

I shall now list the attributes given in this account of the kinds, and in doing so I shall compare these attributes to those given in the previous accounts. The account of the three Kinds at 48e3–49a6 explicitly refers to the account of the two Kinds given at 27d5–28a4, saying that the distinction was “sufficient” (e4). I shall therefore merge these two accounts. I shall indicate the first two accounts by “(I)” and the present account by “(II).”

The first kind, the intelligibles. The attributes are as follows.

(I)	(II)
always is	—
never comes to be	ungenerated (ἀγέννητον)
(yένεσιν οὐκ ἔχον)	the same
always the same	object of intelligence
apprehended by intelligence	—
with reason	—
uncaused	—
paradigm	—
—	indestructible
—	invisible and otherwise not perceptible
—	does not receive into itself anything from anywhere
—	does not go into something else somewhere

This list shows that Plato has now made some omissions and significant additions to the attributes of the first kind, that is, the intelligibles. I do not think the omissions are important, but the additions are. Plato adds attributes that serve to distinguish the intelligibles both from sensibles, (A)'s beings, and from the key component of (A)'s cosmological premise ("all being is necessarily in some place"), place. (A)'s beings are perceptible bodies. With the possible exception of atomist atoms, all bodies are destructible. The intelligibles are "indestructible." They are also in no sense objects of perception. Bodies also are subject to locomotion. They go into "something else," "somewhither" ($\alpha\lambda\lambda\omega\pi\omega\iota$), into something that is different from body, that is, place. The intelligibles do not do this. Further, we learn that that intelligibles do not do what place does, namely, they do not receive into themselves things, bodies, from some other place. The intelligibles, therefore, are quite distinct from (A)'s beings and from what (A)'s beings are "necessarily in."

The second kind, the sensibles.

(I)	
has coming-to-be	generated
comes to be and perishes	comes to be in a place and from it perishes
never is	clings to being or is not (52c4–5)
image of paradigm	resembles the intelligible
apprehended by opinion	apprehended by opinion with perception
with unreasoning perception	

caused

visible

perceptible

has the same name as the

intelligible

[goes into something elsewhere]

In this case Plato has added “in a place” to “comes to be and perishes” and added the fact that sensibles have the same name as the intelligibles. Why Plato adds the reference to place should be clear from what was said above. We may also assume that, by denying locomotion to the intelligibles, Plato intends us to recognize that sensibles are subject to locomotion. When bodies move they “go” into a place as they come out of another place (cf. 52a3); this is locomotion. The word “place” is used appropriately in this context. Assuming that the sensibles are bodies in motion, it is strictly appropriate to speak of them as entering and leaving a place. But Plato does not say that the sensibles enter and leave a place but that they come to be in a place and perish “away from” that place. In the context of coming-to-be and ceasing-to-be, the word “place” is no longer strictly appropriate. Every body occupies a place. If a body comes to be, it necessarily occupies a place because it is now a body and every body occupies a place. That is to say, the link of necessary entailment is not between coming-to-be and occupying a place but between being a body and occupying a place. If and only if what comes to be is a body, it will occupy a place. Therefore it is not strictly accurate to say that something “comes to be in some place and again away from there perishes.” It would be accurate to say that something “comes to be a body and, *qua* being a body, it occupies a place, and again it ceases to be a body, and *qua* not being a body, it does not occupy a place.” Plato may, in fact, be saying this in an overly concise expression. But there are several other possibilities as well. He may also be using language designed to exclude any reference to being (which belongs to the first kind of thing) from what comes to be. He refuses to say that a sensible, a body, “is” in a place; with care he says that a body “comes to be in a place ($\gammaιγνόμενόν τε ἐν τινὶ τόπῳ$).” This care in use of language points to a further claim. The claim is that all coming-to-be and ceasing-to-be involves locomotion. This will become more evident when Plato explains how the elementary bodies are formed by the reassembly of bits (i. e., the “triangles”). Such a reassembly can occur only by the bits’ *moving* into different configurations. All larger bodies are also formed in a similar way. So all bodies “come to be in a place,” that is, come to be with locomotion; likewise they “cease to be from there ($\έχειθεν$).”

Plato adds also that sensibles “have the same name.”⁸⁹ He does so for several reasons. The dispute between (A) and (B) was originally set out as a dispute over what constitutes “real fire” and, in general, whether the real things are the sensibles or the intelligibles (51b7–c5). The word “fire” has a meaning. It has meaning

89 I shall discuss the point further in ch. 4, pp. 181–83.

by referring to something. (A) thinks that “fire” properly refers just to what we experience through our senses. But (B) thinks that “fire,” which for the sake of clarity it calls “fire itself,” properly refers to what is grasped only by intelligence. But if so, how can “fire” also refer, in common speech, to a sensible? Plato’s (and (B)’s) answer is that sensible fire is “homonymous” with “fire itself,” the real fire. It will follow, as we shall see in the conclusion to the argument against (A), that sensibles derive what being (in the sense of being *F*) they have from their relation to the intelligibles. It would seem that Plato could proceed to argue, as he does in the *Phaedo* and *Republic*, that (A)’s beings are, in fact, nothing of themselves, but only *are* by virtue of their relation to entities that (A) claims are nothing at all. Plato will in fact soon argue this, but not before he deploys as the chief weapon in his attack on (A) the notion of place on which (A)’s argument depends.

The third Kind, place or room (*χώρα*). Under the attributes listed in (I) I shall include the restatements of the third kind distinction made at 50d1 and 51a4–b2. I shall omit attributes which I take to apply only to the Receptacle, for instance, that it is shaped by what enters it or that it shakes.

(I)	(II)
receiver of coming-to-be	(i) provides a place to whatever has coming-to-be
obscure, very difficult to grasp	(ii) grasped by a sort of bastard reasoning in the absence of perception
“that in which” for coming-to-be (50d1)	(iii) <i>χώρα</i>
—	(iv) [receives into itself something from somewhere]
invisible	(v) [not grasped by direct perception]
—	(vi) scarcely an object of certainty
—	(vii) does not admit destruction

The attributes listed under (I) are intended to distinguish metaphysically the third Kind from the other two Kinds. The attributes listed under (II) are intended to distinguish a certain thing, *χώρα*, from both sensibles and intelligibles. To explain how this is the case and what *χώρα* is I must treat the attributes one by one.

(i). *χώρα* (place, room) “provides a place (*ἔδραν*) to whatever has coming-to-be.” What Plato means by the word *ἔδρα* (lit. seat) here is not immediately evident. On the one hand, I do not believe that Plato uses the words *χώρα*, *ἔδρα*, and *τόπος* as strictly defined and exclusive terms. But on the other hand I think that Plato does think that a subtle distinction can be made between *χώρα* and *ἔδρα* – *τόπος*. Plato uses *ἔδρα* in various contexts. I shall give a few examples from contexts which seem directly connected to this account of the third kind of thing: *χώρα*. In the *Parmenides* Parmenides makes the following argument:

Is it not the case that everything that will touch something else must lie next ($\epsilon\phi\epsilon\xi\eta\varsigma$) to that which it will touch, occupying ($\chi\alpha\tau\chi\omega\nu$) that very $\xi\delta\varrho\alpha\nu$ (position) which would be directly after (the position) in which that which it touches would lie? Necessarily. So, too, the one, if it will touch itself, it must lie next to, directly after itself, occupying the $\chi\omega\rho\alpha\nu$ (place) next to that in which it is. If the one were two, it could do this and could be in two places ($\chi\omega\rho\alpha\nu$) at once; but as long as it is one will it not refuse (to do this)? (148e4–149a2)

In this passage Plato makes no evident distinction between $\xi\delta\varrho\alpha$ and $\chi\omega\rho\alpha$. The context suggests that there is a direct relation between a body and what it occupies: a $\xi\delta\varrho\alpha$ or $\chi\omega\rho\alpha$. The first part of Parmenides' argument posits two physical objects, bodies (call them O_1 and O_2), that touch one another; this draws on the common meaning of the word "touch." The argument assumes that each object lies in, that is, occupies, a "position" or "place"; call these P_1 and P_2 . The argument can assume this because it has already been accepted that "if something were nowhere it would be nothing" (145e1). Because O_1 and O_2 touch it follows that P_2 must be "next to" or "directly after" P_1 . The notion of touching implies that there is not some third object between O_1 and O_2 . It follows that in this case there is no third position or place between P_1 and P_2 ; therefore P_2 is "directly after" P_1 . The argument now turns to the one. If, as the preceding argument has suggested (148e2–3), the one touches itself, it must be the case that the one occupies at the same time the position or place next to its own, but this would entail that the one is two, which is impossible. Why must the one be two? Why is it that what is one cannot occupy two places or positions at the same time? Part of Plato's answer to this rather difficult question would lie, I think, in his understanding of the notion of place or position. It belongs to a third kind of thing; what place is is defined by what this kind of thing does: "receive" what comes to be, that is – in this case – body. This means that something is a place if and only if it is occupied by (receives) a body. So, if something is empty of body, it is not a place. It is either something else or nothing at all. Such a thing would be the void. But Plato repeatedly denies that there is such a thing. Plato accepts the claim that all body is in place, and he also seems to think that all place is necessarily occupied by body. Returning to the argument, let us assume *per impossible* that O_1 is a perfectly single body and it occupies P_1 and P_2 . P_1 , in Plato's view, is a place by virtue of the fact that it is occupied by a body, O_1 . Therefore, in so far as P_1 is a place, it is occupied by O_1 . But P_2 is also a place. To be a place it must be occupied by a body. By assumption this body must be O_1 . So P_2 , given that it is a place, is occupied by O_1 . In what respect, we must now ask, will P_1 and P_2 be different? If, as Plato thinks, place is precisely that which is occupied by body, what will distinguish a place from another place will be their being occupied by different bodies. So P_1 and P_2 can be different places only if they are occupied by two distinct bodies. But since, by assumption, they are occupied by the same body, P_1 is identical to P_2 . Therefore a single body cannot occupy two places at

once. And it also follows that, if a body does occupy two places at once, it is not one body but two (for the sake of the argument's clarity I assume that the body or bodies in question are simple, that is, that they are not composed of parts that each occupy distinct places). One might object to this argument by challenging the premise that P_1 and P_2 can be different places only if they are occupied by two distinct bodies. One might argue that P_1 and P_2 can be different by being different locations. Plato would deny this because he will not entertain the notion that location is somehow independent of bodies that are in particular places. Such a notion of location requires a conception of an absolute spatial grid on which locations are mapped. Such locations would be distinct from the bodies that occupy them in the relevant sense. But the conception of an absolute spatial grid is quite alien to Plato's thinking, if for no other reason than that it entails the possibility of empty place.⁹⁰ I shall discuss the notion of space below, in an excursus.

In his discussion of respiration in the *Timaeus* Plato says the following.

Because there is no void into which any moving thing could enter, and since our breath moves outwards, it is evident that after <going out> the air we breathe does not <go> into a void but pushes the neighboring <air> out of its ἔδρας (position). As this <air> is pushed away it drives out in succession that <air> which neighbors it, and under this necessity the whole <of the neighboring air> is driven round and enters into the ἔδραν (position) out of which our breath departed, filling it up, following the breath <that was exhaled>; this happens all at once, all revolving like a wheel, by reason of the fact that there is no void. (79b1–c1)

Because there is no void, the air we exhale cannot simply fill up something that is empty but must push other air out of the ἔδρα that that air is occupying. What is true of the air we breathe is true of all bodies in motion. A body only moves by displacing other bodies, one or some of which in turn "all at once" occupy the ἔδρα departed by the moving body. Both motion and rest assume that bodies occupy a ἔδρα, a place or position (see *Prm.* 145e9–146a6).

Finally I want to mention a passage from the *Laws* that seems to bring out a subtle distinction between ἔδρα – τόπος and χώρα. The Athenian and Clinias agree that in the whole of things some are moving and some are stationary. The Athenian then continues: "So, is it not the case that the stationary things are at rest and the moving things move in some χώρᾳ? [C1.] Of course. And some of them would do so in one ἔδρᾳ (place) somewhere and some in many <places>" (893c1–4). The Athenian goes on to mention things that rotate in a single place (ἔδρα) (cf. *Rep.* 436d7) and then says: "But as for things that move in many places (πολλοῖς <τόποις>) you seem to me to speak of things that move with motion, always changing to another place (τόπον) . . ." (d6–8). Here ἔδρα and

⁹⁰ For further reasons why Plato did not have the notion of an absolute spatial grid see below, pp. 138–40.

τόπος seem refer to the same thing, namely the place that a body occupies and into which it moves. This is true of χώρα as well, but the passage suggests that there can be more than one ἔδρα or τόπος in a χώρα, because something can move "in a χώρα," but non-rotational movement entails the occupation of successive places. At least here, then, a χώρα seems to be something that can be occupied by a moving body and, therefore, can contain a succession of places or positions. This would probably not be true of ἔδρα and τόπος, provided that these terms are not used loosely.

I shall now return to Plato's statement that the third kind of thing "provides a place (ἔδραν) to whatever has coming-to-be." The third Kind "receives" and is a "that in which" for coming-to-be. χώρα, which belongs to this Kind as a member, "provides a ἔδραν" to "whatever has (ὅσα ἔχει) coming-to-be." What "has coming-to-be" is a sensible, a physical object. So χώρα provides a place, in the sense of place discussed above, to sensibles. It should be remembered that in listing the attributes of the second kind of thing Plato says that such a thing "comes to be in a place." I there discussed what Plato might mean by "*coming to be* in a place." Now, in speaking of the third kind of thing, Plato expresses himself with greater precision: a place is provided to sensibles, that is, to bodies. But in what sense does it "provide" (*παρέχον*) a place? I tried to show above, that, in the context of bodies being in place, Plato uses the term χώρα in two senses: (i) as synonymous with ἔδρα and τόπος, and (ii) as indicating a place which contains other places. Sense (ii) can be used in two rather different ways, (a) and (b). In (ii.a) one may say that χώρα "provides a place" in the way that a cornfield provides a place for an individual corn stalk or a baseball field provides a succession of places for a line drive. So in the broadest use of (ii.a) one might say that χώρα refers to the place occupied by the body of the world as a whole. In sense (ii.b) χώρα operates as something like a collective or mass term. "Water" is such a term. "Water" refers generally to the liquid that is in glasses, seas, puddles, and so on. The whole sum of this substance is called "water" as are the particular parts of collections scattered throughout the world. In sense (ii.b) χώρα refers equally to the place occupied by each body in the world and to all of these places collectively. So in sense (i) χώρα means "place" just as do ἔδρα and τόπος, while in (ii.b) χώρα is the term for place in general. The distinction between (i) and (ii.b) may be illustrated by Quine's example of the two senses of "Mary had a little lamb,"⁹¹ that is, a particular animal or a slice for dinner. In sense (ii.b), then, the statement that "χώρα provides a place" means simply that χώρα is that which body occupies in every instance, whether moving or stationary. Although I doubt that Plato distinguishes between (ii.a) and (ii.b), I think that both are embedded here in his use of the term χώρα.

91 Quine 1960, 91.

(iii) and (iv). I think what I have said about χώρα as place in my discussion of attribute (i) sufficiently explains the sense in which χώρα is a “that in which” for what comes to be, sensibles (= iii), and how it “receives” into itself bodies that come from “somewhither,” that is, from other places, which is a reference to motion (= iv).

(ii). χώρα is “grasped by a sort of bastard reasoning with absence of sensation” ($\muετά\ \alphaναισθησίας\ \acute{α}πτὸν\ λογισμῷ\ τινὶ\ νόθῳ$) (52b2). The meaning of this phrase is not obvious. Simplicius (*In Phys.* 226.25–28), for example, interprets “bastard reasoning” as follows: “Plato called this knowledge by analogy⁹² ‘bastard reasoning’ because it is achieved not by the support of form but by the stripping away and negation of forms, so reasoning gazes at matter like a man whose eyes are shut.” Aristotle says that “the underlying nature [i. e., matter] is known according to analogy” (*Phys.* A.7. 191a8). Simplicius thought that Plato’s Receptacle, which he thinks is called χώρα in a metaphorical sense (see ch. 1, I.1.α), is matter, and so it is not surprising that he thinks “bastard reasoning” is the kind of reasoning (“stripping away”) Aristotle uses in *Metaphysics* Z. 3 to get at matter. Unfortunately, there is no evidence of abstraction by “stripping away” here in the *Timaeus*. Plato commonly uses the term “bastard” to refer to things of mixed origin. For example, the “daimons” are “bastards” who are the offspring of gods and nymphs or other non-goddess mothers (*Apol.* 27d8–9); the offspring of philosophy and mediocre men who “disgrace her” are bastards (*Rep.* 496a2); and pleasures are “bastard pleasures” (*Rep.* 587c1) that derive from a mixture of what is painful and pleasant, truly and falsely filling. “Bastard reasoning” presumably has mixed origins as well. “Bastard reasoning with absence of sense perception” is set in opposition to “opinion ($\deltaόξη$) with sense perception” (52a7), by which we grasp sensible objects. “Opinion” is based on empirical evidence ($\muετά$ means “with <the help of>”); because it is in the nature of opinion to have this basis for its conclusions opinion is not a “bastard.” “Reasoning,” on the other hand, for Plato naturally proceeds by consideration of non-empirical objects. “Bastard reasoning,” then, is presumably reasoning of mixed origin. Plato tells us at least part of what he considers to be the origin that debases reasoning: the use of “absence of perception.” “Absence of perception” seems to signify that the fact that nothing at all is perceived is important: “bastard reasoning” draws conclusions partly on the basis of this fact. Because we know that the reasoning process refers to χώρα (place, in the sense discussed above), it is not impossible to grasp what Plato is telling us. He is telling us that we come to know about what place is on the basis of the fact that we have no sense perception of it. I suggest that Plato has in mind a reasoning process similar to what Aristotle describes as follows:

92 Cf. the paraphrase by the compiler of *Timaeus Locrus*: “to come to understand not with a direct view (of the object) but with analogy” (94b).

That there is place seems to be evident from replacement. For where there is now water, here, when it leaves (as from a vessel), air comes in, or at some time some other body occupies that same place. But this thing [i. e., place] seems to be something different from all the <bodies> that come into <it> and exchange <places>. For that <place> in which air now is, water was in beforehand, such that it is evident that place and room (*ό τόπος . . . καὶ ἡ χώρα*) are something different than both <the air and the water>, into which and out of which they went. (*Phys.* Δ 1. 208b1–8)

Aristotle suggests that we think there is such a thing as place because we observe “replacement.” What we see is one body, then another. We infer, however, that there is some third thing that is necessarily different from either body. We infer this from the fact that we say “water is here,” then “air is here,” and “here” refers to something somehow evident to us. But we have no sense perception of this third thing, and precisely because we do not, we infer that it is not a body, like the air and the water, and that this very fact enables it to be what it is, namely, to be something in which bodies are somewhere (“here”) and contains them. This is a process of reasoning that has, Plato might claim, a “mixed” origin.

If what I have suggested is correct, by attribute (ii) Plato is attempting to explain to us rather precisely how we acquire the notion of place (*χώρα*): we use our reason to analyze the fact that we are not perceiving something that must be a part of the physical world. This account of (ii) readily explains the sense of attribute (v), that *χώρα* is not an object of direct perception.

(vi). *χώρα* is “scarcely an object of certainty” (*μόγις πιστόν*). As in the case of (ii), it is not obvious what Plato means by (vi). At 49b5 Plato says that it is difficult to employ a “trustworthy and steady statement” (*πιστῷ καὶ βεβαιῷ λόγῳ*) about the elements which are always changing. What is *πιστός* is what one can trust. In 49b5 a statement about the elements cannot be trusted because the statement alleges a fact about an element that will be false, that is, will not correspond with what is observed, as soon as the statement is made. So the instability of the apparent referent makes the statement untrustworthy. But place is not unstable. It may be that in as much as reasoning about place is a kind of “bastard reasoning,” Plato claims that the conclusions drawn by such reasoning are “scarcely to be trusted,” meaning that they do not have the kind of rational certainty that dialectical argument produces. It is, in fact, quite difficult to say anything about place with much confidence, even though the concept of place is something we daily employ. Aristotle’s treatment of place and void provides a parallel.

It is the business of the physicist to investigate the void in the same way, namely, whether it is or not, and how it is, and what it is, just as was the case about place. For <the void> has in a quite similar way <with place> both lack of certainty and certainty (*τὴν τε ἀπιστίαν καὶ τὴν πιστίν*) through <an overview of> the premises. (*Phys.* Δ 6. 213a12–15)

Aristotle, unsurprisingly, is more confident about place than Plato is, but still recognizes that there are reasons to be unsure even about whether it is something or not.

(vii). χώρα “does not admit destruction.” By this claim Plato would seem to refer to the fact that place is separable from what occupies it, with the result that it remains entirely unaffected by any physical object that may enter it, abide in it, or leave it. But (vii) does not claim complete unaffectionability, or impassibility; it makes a weaker claim. The word φθορά means destruction with respect to what something is, with the final outcome that a thing ceases to be. It will be remembered that the intelligibles, the first kind of thing, are “indestructible” ($\alpha\nu\omega\lambda\varepsilon\theta\varrho\nu$). They are so because they are “always the same.” No doubt, place always remains place, but it is not always the same. Place is always the place of some body. As the bodies it “receives” have different dimensions it must be the case that the place’s dimensions change, since its dimensions are those of the bodies that occupy it. In this sense place may be said to be subject to change. But this does not change place with respect to what it is. Therefore such change does not make it subject to destruction. That which occupies place, bodies or sensibles, the second kind of thing, is subject to destruction. But, Plato wishes to affirm here, the facts that bodies come to be and perish in place and move from place to place do not affect place such that it is destructible as well.

I hope the preceding discussion of the attributes of χώρα have made it evident that Plato is talking about place, variously conceived. Aristotle, in fact, says that “Plato alone tried to say what place is” (*Phys.* Δ 2. 209b17). It might seem plausible that Aristotle is referring to *Parmenides* 145b6–e6, 149e4–150b5, where the notion of containment is discussed, as Solmsen 1960, 133–34, suggests. Aristotle, however, is quite explicit that he has the *Timaeus* in mind (see 209b11–12). So Aristotle also thought that Plato’s treatment of χώρα in this passage is a treatment of place. I have already suggested why Plato treats place here, in the Digression. Plato wants to appropriate (A)’s empirical premise that all body is in place for an argument against (A). I shall explain how the foregoing serves in this argument shortly. But one might wish to ask Plato, Why introduce a discussion of place here, right in the middle of the treatment of the Receptacle of elemental coming-to-be? I think Plato had a number of reasons. Among them, Plato conceives of place as a third kind of thing, that is, a member of the third Kind. He has introduced the distinction of the third Kind for his account of the Receptacle. While this difficult concept is present to the minds of readers it is a good time to discuss place. Place is similar to the Receptacle in several ways, as is entailed by their both being a third kind of thing. I shall return to the subject of the similarities of these entities in Chapter Five. Place is part of the physical world and should be discussed in any event. The most elementary bodies discussed so far are the elements. In so far as the elements are bodies, they must occupy place. It is appropriate, then, for this reason as well to discuss place directly before proceed-

ing with the detailed account of the elements. Another reason to treat place now is the importance of the elements to reductionist materialist views. Because Plato feels he needs to confront materialist views he thinks the best strategy is to attack them on their own turf, defeating them with their own weapons, that is, the notions of elementary body and place. Finally, as we shall see, the argument against (A) rests on the distinction of the three Kinds. It would be awkward to argue against (A) elsewhere, because that would require yet another reintroduction of the Kinds distinction. Plato seems to feel that by marking his argument against (A) as a digression he will not cause readers to confuse place with the primary subject under discussion, the Receptacle. But his first reader, so to speak, Aristotle, did precisely this. Was Plato being naïve? I doubt it. It must be admitted, I think, that Plato was not adverse to taking risks. He often seems to dare us to misinterpret what he says. I think every reader of Plato is aware of this.

I stated above that the attributes of the third kind of thing, $\chiώρα$ (place), serve to distinguish it both from sensibles and intelligibles. Now that I have discussed the various attributes ascribed to $\chiώρα$, I hope that it is clearer how this is the case. The third kind of thing, $\chiώρα$, is not a sensible: it is not perceptible; it does not "go into something" but is that which "receives" what does so; it is not apprehended by opinion with perception; it does not perish; it is not generated. Since it is not a sensible, a body, it does not occupy place, so escaping Zeno's regress. One may, however, wonder whether, like a sensible, it "resembles" an intelligible and has the "same name" as an intelligible. For this to be the case there would presumably have to be Form $\chiώρα$. Is there? It is clear that $\chiώρα$ is not a Form, for then it would be an intelligible, one of the first kind of things. But does it have a Form? The answer would be "yes" if one can assume that, for Plato, a kind is a Form. The Greek term $\epsilonίδος$ is the same for both, but Plato does not commit himself to the claim that kinds are Forms. Perhaps it would be safest to say only that kinds might be Forms under some definition of "Form," but this is not a claim Plato would want to introduce now. $\chiώρα$ (place) is not an intelligible because it is not "the same" in the sense that an intelligible is; it is not an object of intelligence but of "bastard reasoning"; it does receive things, bodies, into itself from elsewhere; it is indestructible and invisible, but in a different sense than an intelligible is. So $\chiώρα$ (place) is a different kind of thing from either a sensible or an intelligible. But as I have attempted to show, the attributes of $\chiώρα$ that Plato provides inform us not only that it is different from sensibles and intelligibles but also about what it actually is: place, in various senses.

I now wish to return to the argument against (A). How has the distinction of three kinds of things formed a basis for an argument against (A)? (A)'s physical premise is that "all being must necessarily be somewhere in some place and occupy some room" (52b4–5), which I shall simplify to "all being occupies place." Plato has now argued that being and place, the first and third kinds of things, are quite distinct. (A) would, I presume, accept this. (A) might also accept,

with some modification, the attributes that Plato claims belong to place. If so, the nature of place is not at issue (leaving aside the question of the possibility of void or empty place). What is at issue is the attributes that Plato attributes to being and, correspondingly, the attributes of the second kind of thing, what comes to be. (A) claims that the real fire is the fire we perceive through the senses. So (A) would probably accept that its beings have some of the attributes that Plato ascribes to the second kind of thing (e. g., they are generated, perceptible, come to be, and perish) and, therefore, few or none of the attributes that Plato ascribes to the first kind of thing. However, if (A) were strictly an atomist view, matters would be more complex. An atomist would claim that its atoms, or indivisibles, do have some of the attributes of Plato's first kind, for instance, indestructibility, immutability, being ungenerated, being objects of thinking (in an atomist interpretation). But Plato gives no hint that (A) is strictly an atomist view. If, then, we put to one side the possibility that (A) is strictly an atomist view, (A)'s position will be that its beings are the kinds of things that Plato calls a second kind and, further, that there are no other beings – place having been distinguished from being – that have different attributes. So (A) claims that there simply are no things that have the attributes Plato ascribes to the first kind. But Plato argues that this cannot be right. He argues that the relation that (A) holds to exist between being and place belongs strictly to what comes to be and place; being does not stand in such a relation to place. It would follow that (A)'s premise "all being occupies place" must be restated as "all that comes to be occupies place." But because what comes to be is not being, (A) errs when claiming that sensibles and only sensibles are beings.

We should ask whether (A) would accept the inferences that follow from Plato's distinction of three kinds of things. It is obvious, I think, that (A) would not accept Plato's distinction and therefore reject the inferences. Plato sees this too. Therefore his argument continues. His argument presses (A) on the ontological significance of the admitted fact that (A)'s beings must be in place. Plato, as we shall see, argues that the dependence of bodies on place deprives them of the ontological independence that (A) presumably accords to proper beings.

I have been arguing that Plato introduces his discussion of place ($\chiώρα$) in the context of an argument against a materialist view, (A), and that he does so because of the centrality of the notion of place in that view. To refute (A) Plato argues that the empirical fact that all body is in place must be understood in light of his distinction of three kinds of things along with the metaphysical distinction of three Kinds. Within the context of the argument against (A) Plato identifies the third kind of thing as $\chiώρα$. He says, accordingly, when introducing the third kind of thing: "and further <that> a third is always the kind of $\chiώρα$ " (52a8). Finally, at the very end of the Digression, Plato recapitulates as follows: "Let this statement, then, be given in sum as reckoned by my verdict: that there are being, $\chiώρα$, and coming-to be, three in three ways" (52d2–4). It is widely thought that

here Plato reveals the true subject of the entire discussion from 48e2 to 53c3: χώρα. Previously Plato had spoken only of a third Kind and the Receptacle. Interpretation has largely ignored the distinction between these two. Now Plato introduces a new term, χώρα. Once again interpretation has largely failed to distinguish between the metaphysical distinction of a third Kind, the Receptacle, and place, with the result that Plato is often interpreted to speak of just one thing; I shall return to this view in Chapter Five. Interpretations that take this to be the case then attempt to explain how what is said of the Receptacle and of the distinction of a third Kind all fall under Plato's odd and capacious notion of χώρα. The most radical of these is the Space Interpretation, which translates χώρα as "space." Below, in an excursus, I shall discuss space.

An excursus on the interpretation that the subject of 48e2 to 53c3 is space

The Space Interpretation, discussed in Chapter One (interpretation II), originated in the nineteenth century. The Space Interpretation does not distinguish between the third Kind, the Receptacle, and χώρα. The "Receptacle" (49a6), according to this interpretation, receives not just the bodies of the elements but *all* bodies whatsoever (see 50b6).⁹³ Space would, indeed, seem to be a likely candidate for that which receives all bodies, granted the doubtful claim that "receives," as Plato uses the term, just means "contains." But what, precisely, does "space" mean in this interpretation? The Space Interpretation arises after the debate over the nature of space held between the Newtonians and Leibniz with his followers and also after Kant's transcendental aesthetic. Two questions must be asked to evaluate the Space Interpretation. (1) What conception of space is held by an interpretation when it claims that the Receptacle is space? (2) Is this conception of space applicable to what Plato says in 48e2 to 53c3? To begin with it will be useful to state briefly the Early Modern views of space. The Leibnizian or relationalist view holds that space is not a thing but a concept we produce by observing the relations, or spatial order, that bodies have to one another. The Newtonian or substantialist view, on the other hand, holds that space, as the container of or area for all bodies and physical events, exists independently of the material it contains; such space is "absolute," and against it the absolute motion of bodies can be calculated. This view also recognizes "relative" space against which the motion of bodies relative to one another can be calculated. The Kantian view rejects the Newtonian independent existence of space and the Leibnizian *a posteriori* acquisition of the concept of space by the observation of relations of things; it claims rather that space is an *a priori* form of sensible intuition or sensible receptivity.

93 I have argued against both these claims.

At the base of this view lies the assumption that the Euclidean space in which Euclidean geometry is performed is identical to the space that “forms” our perceptions and all appearances.⁹⁴

The interpretation discussed in Chapter One as (II.1) shows strong influence of Kant’s view of space. It claims that because “the material” is non-being, there is no real substrate that lies at the base of the world but only an “objective *Erscheinungsform*” that receives the Forms. But because, as we know from Kant, space is the “form of all appearances of outer sense” (*Critique of Pure Reason*: A26/B42), the interpretation claims that “Plato reduces materiality to the concept of spatiality.”⁹⁵ By seeking proof for this interpretation in Plato’s geometrical construction of the elemental bodies (II.1) ascribes to Plato the Kantian assumption mentioned above, namely that the space of appearances is identical with geometrical space. Finally interpretation (II.1) asserts that space is non-being just as Kant argues that space is “nothing at all” conceived of as a “transcendental ideality” (see the *Critique of Pure Reason*: A28/B44); here Kant follows the Leibnizian view. The notion of space that is ascribed to Plato by this interpretation is an objectified or modified Kantian view of space. Space is what makes appearances possible, where an appearance is – as this view claims in Plato’s behalf – a reflection of an image of a Form or just an image of a Form that clings to or is reflected on “space,” which is therefore a necessary condition of an appearance. What in Kant is a claim about what underlies our sensible intuitions is here a claim about “things in themselves,” since things are, in this interpretation, just appearances (of Forms). Support for this claim about Platonic things is sought specifically from 49e7–50a1 where Plato says “that in which each one (ἕκαστα) of them continually coming to be, appears (φαντάζεται), and again away from there perishes.” “Each one” is here taken to refer to “each physical thing” that momentarily appears (as being an image of a Form) in or on space. Interpretation (II.2), discussed in Chapter One, is an outgrowth of (II.1). According to this interpretation the Receptacle is a medium, field, or mirror for the appearances of images of the Forms. (II.2) builds its interpretation on Plato’s use of the metaphor of “image.” Images are “reflections” of objects, and reflections require something on or in which the objects can be reflected. This is space.

There is no need to argue, I think, that Plato was not a Kantian. But the view of space being ascribed to Plato by (II.1 and II.2) is clearly not Kant’s. Can this objectified Kantian space be what Plato calls the Receptacle? To answer this it would be desirable to know what precisely objectified Kantian space might be. It is certainly Euclidean. Furthermore, since it is objectified, it must be somehow Newtonian, not Leibnizian or Kantian: it is a container that exists independently of what it contains (“appearances”). But Newtonian space contains real bodies

94 On this see, e. g., Friedman 1985.

95 See above, ch. 1, p. 25.

and their motions, not appearances. Furthermore, as the Receptacle – so it is claimed – receives “all bodies,” it must correspond to Newtonian absolute space. But absolute space does not move by definition, whereas the Receptacle “shakes” and “is moved” (52e4–5). The space proposed by (II.1 and II.2) does not seem to be an interpretation of space recognized by early modern and modern philosophy, nor yet by contemporary philosophy since it is necessarily Euclidean. Such an interpretation of space is not even intelligible. How is independently existing space the necessary condition of an appearance? (II.2) claims that things, or what appears to us, are merely alterations of space (because space is the *τόπος*). What is space such that an appearance is an alteration of it? What notion of space is this? This interpretation is inspired by the requirements of one interpretation of Plato’s metaphysics and a literal interpretation of Plato’s metaphorical talk about “images.” Further, it assumes that Plato is discussing phenomena that “appear” in the Receptacle; I have argued against this. But let us grant, for the moment, that the Receptacle does reflect the images of Forms. Is the Receptacle therefore space? An image of a Form is an instantiation of a Form; the process of instantiation is, metaphorically, a reflection. How will a Form be instantiated in space? Presumably this means that it has a three-dimensional representation, or seen from a different perspective, that something three-dimensional manifests or partakes of the Form. But for Plato what is three-dimensional is a body (see 53c5–6).⁹⁶ So, to be “reflected” means to be manifested in a body. Therefore what an “image” requires is not space but bodily extension, which rather suggests matter. The Space Interpretation proposed by (II.2), then, suggests that the Receptacle is matter rather than space.

Interpretation (II.3) claims that the Receptacle is just physical space and that the *Timaeus*, as Aristotle might be understood to say, makes a serious attempt to say what physical space is. I have argued above that Plato does, in fact, treat place as being a “that in which” for physical bodies. If this is the meaning of “space” in interpretation (II.3), then I would agree that Plato does discuss “space.” He does not, however, identify space with the Receptacle or with the third Kind, as (II.3) claims. I have argued above that they cannot be so identified. But it is likely that interpretation (II.3) assumes that Plato shared the same general notion of physical space that we do. This assumption is not justified. Whatever notion we have of “space” reflects several thousand years of thought about this difficult subject; we cannot attribute this notion to Plato.

Lang 1998, in her treatment of Aristotle’s physics, provides what I consider to be a very insightful discussion of the problem of translating a term of ancient

96 Plato says in 53c5–6 that all bodies are three-dimensional. Could there be anything in Plato’s cosmos that is both three-dimensional and not a body? This could only be empty space, but there is none. The result of there being no empty space is that, as Leibniz observes, space and/or place are not “things.”

physics by a term loaded with modern conceptions. I wish to cite some of this discussion because I think what she says is directly applicable to the Space Interpretation. Lang is concerned with modern translations of Aristotle's terms "faster" ($\thetaύττον$) and "that through which" ($\tauὸ δι' οὐ$ [*Phys.* Δ 8. 215a25–26]) by "speed" and "medium." She writes:

This tradition evaluates Aristotle's arguments (and his physics as a project) in terms of quantitative physics – the model of which usually seems to be Newton. It wishes to make Aristotle speak the language of "speed," "medium," etc., and because this is the language of true physics – Newtonian physics – and Aristotle's physics will be truer if expressed in it and brought as close as possible to it in every way. Hence, "to make sense" of Aristotle one must make this the first task. But the history of ideas (including science and philosophy) is thereby, in its turn, being defined. One assumes a model of physics, thought to be true or best, and then translates (and evaluates) Aristotle's physics into the terms and concepts of this model. Thus behind this translation (and evaluation) lies the assumption that there is only one "real" physics, quantitative (Newtonian) physics and the history of philosophy is the history of stages on the road to this achievement. But Aristotle's teleological physics rests on different starting points, defines different problems, and utilizes different concepts than does quantitative physics. . . . In short, the meaning of particular terms or concepts must be determined by the larger context, and the coherence of that larger context must in its turn be determined as a whole presenting logical and conceptual coherence. (152)

I have tried to point out that the Space Interpretation assumes a notion of space that does not propose an account of space that both is coherent and supported by the text of the *Timaeus*. By translating $\chiώρα$ as "space" it treats Plato's subject – in so far as Plato discusses $\chiώρα$ – within a quasi-Kantian or Newtonian framework, frameworks that are quite alien to Plato's thought. The intention of the Space Interpretation is, in general, not so much to show that Plato's physics is "truer" or corresponds more closely to the conceptions of our physics as to show that Plato's thinking is, as Lang might put it, "a stage on the road to the achievements" of more recent philosophical views, such as transcendental idealism or phenomenology. To so interpret Plato may lead to interesting philosophical reflections, but it fails to recognize the simple and interesting fact that Plato's concepts and starting points are radically different from those of modern (and, *a fortiori*, post-modern) philosophy. Furthermore, it places on what Plato actually says the weight of conceptual incoherence.

End of the Excursus

II continued: Conclusion of the argument against (A)

(52b6–d4)

Being under the influence of this dream state [cf. b3], we make all these distinctions and others akin to them⁹⁷ even about the sleepless⁹⁸ and truly existing⁹⁹ nature, and are unable, having awoken, to say the truth: <namely> that it is proper to an image – for the reason that not even that upon which it has come to be is its own, and <because> it always bears¹⁰⁰ the appearance ($\varphi\acute{a}nta\sigma\mu\alpha$) of something else – to come to be in some other thing, clinging to being in some way, or else <to say that> it is nothing at all; but the true account <formulated> with exactitude is a support to that which really has being, <it stating> that as long as the one is something and the other is something else, neither one is ever in the other <such that> they will come to be at once one and the same and also two. Let this statement, then, be given in sum as reckoned by my verdict: that there are being, $\chi\acute{o}\rho\alpha$, and coming-to-be, three in three ways, and they were before heaven <came to be>.

A textual comment. The expression $\epsilon\varphi'\ \dot{\omega}\ \gamma\acute{e}yov\epsilon v$ ("that upon which it has come to be") (c1) has been the subject of much discussion. Taylor 1928, 348, with Cook Wilson 1889, 109–10, translates "the very-thing-it-was-meant-for." Cornford 1937, 370, "that very principle (or condition or terms) on which it come to be." Cherniss 1956 in his article devoted to this very line, translates "since not even that very thing that an image signifies belongs to the image itself" (59). He interprets Plato's meaning to be that "any particular image stands for something, refers to something, means something and this meaning the image has not independently as its own, but only with reference to something else" (59). Plato is speaking of the ontology of images, not how they signify. Images are depictions of something *on* something else (e. g., a flat surface). For this sense of "on" one would expect $\dot{\epsilon}\pi i$ with the genitive, not the dative (although the dative is also possible [LSJ, s.v. $\dot{\epsilon}\pi i$, B.I.1.i]). But as the overall subject here is place ($\chi\acute{o}\rho\alpha$) – intuitively that *in* which, not *on* which, images come to be – Plato subtly uses the dative, which at once suggests "on" (less forcefully) or "by" (Smyth 1689.2.a) and "dependence upon" (LSJ, B.I.1.g). Images, therefore, do not have that upon

97 I.e. those mentioned in the preceding lines: "we say that every being must necessarily be somewhere in some place and <be> occupying some $\chi\acute{o}\rho\alpha$, and <we say that> that which is neither on earth nor somewhere in the sky is nothing" (b4–5).

98 In context $\ddot{\alpha}\nu\pi\nu\nu$ probably means "not to be seen in a dream state" (cf. Taylor 1928, 347).

99 $\dot{\alpha}\lambda\eta\theta\omega\varsigma\ldots\dot{\iota}\pi\alpha\rho\chi\nu\nu\alpha\alpha\varsigma$. $\dot{\iota}\pi\alpha\rho\chi\nu\varsigma$ usually means "to be the case that" The meaning here seems to be something like "which really is the case that it [i.e., this nature] is what it is."

100 $\varphi\acute{e}petai$. I take this as a middle. Cornford 1937, 192, taking it as passive, translates "it is the ever moving semblance of something else." The introduction of motion here would serve little purpose in Plato's argument. The point he wishes to make is that sensibles, as manifesting "appearances" of Forms and being no *F* in a proper way, have an ontological status nearly opposite to what the materialists claim.

which they depend for their existence, that on the basis of which (literally) they come to be.

Plato now brings to completion his argument against the materialist view (A). The analysis of three kinds of things shows that what (A) regards as real has a very loose connection to reality, one that is dependent on the objects that Plato's view (i. e., B) holds to be real. (A) claims that if "even" the "truly existent nature," Intelligence and the Forms, is "neither on earth nor somewhere in the sky" (b5), it is "nothing," whereas sensible bodies, which are on earth or in heaven, are real. In reply Plato says that those who make such a claim are in a dream state; the truth is quite otherwise than they suppose. The distinction of the three Kinds shows that sensibles, as members of the second Kind, *are not* (any *F*) but are instances of "coming to be *F*"; they "cling somehow to being" (c4–5) by being "images" or "appearances" of Forms that are properly *F*. Furthermore, as body-images¹⁰¹ they require place to come to be, since "not even that upon which they have come to be is their own" (c2–3). Therefore even with respect to being images they are not self-subsistent.¹⁰² That which must be "in" something else in order to *be*, and – *a fortiori* – in order to come to be, does not "really have being" (c5–6).¹⁰³

As a final flourish, one might say, Plato adds the rather inscrutable point that the true account, which supports (B), establishes that "as long as the one is something and the other is something else, neither one is ever in the other (such that) they will come to be at once one and the same and also two" (c6–d1). The literal sense of the statement is clear. Given two distinct beings (things), *x* and *y*, and given that *x* and *y* continue to remain what they are, *x* will never come to be in *y* or *y* in *x* with the result that something is produced that is both one and the same thing, (*x*–*y*), and also two things, *x*, *y*. The self-evidence of this claim is meant to be indisputable; even (A) would not question it, and in fact, it is just the kind of claim that a materialist would make. The obscurity of the statement lies

101 I use the expression "body-image" to underscore the key point that (A)'s beings are bodies and, therefore, occupy place even though we are, according to the argument, to consider them to be "images."

102 We are meant, I think, to recognize that this claim in the argument against (A) has a parallel and opposite claim in Plato's view (B). The beings of (B), Forms, are self-subsistent, that is, they are "of themselves" ($\chiαθ' αὐτά$). As being things that are "of themselves" they need not be "in" anything to be what they are. This point is made in the *Smp.* as follows "... <Beauty> is not somewhere in some other thing ($οὐδε πού ὅντες τινί$), such as in a living thing or on (in) the earth or in the sky or in anything else, but it is itself of itself, with itself" (211a8–b1).

103 Note that if one held that Plato conceived the Receptacle and place ($\chiώρα$) to be one and the same entity and recognized that the Receptacle provides some kind of material basis for the elements that come to be in it, one would considerably diminish the force of Plato's argument against (A). This is so because it is rather clear that place does not "belong" to bodies, but it is equally clear that the Receptacle does, in some sense, "belong" to bodies. This is to say that had Plato only spoken of the Receptacle his argument would not have been strong.

in how one is to apply this to the context. Plato has just argued that sensible bodies, (A)'s beings, "come to be in some other thing" (c4) because they are images that "appear" in or on some stable thing. Let us indicate the stable thing (place) as y and the body-image as x . In this case, unlike the case of two distinct beings, x comes to be in y with the result that the body-image (x) and place (y) are one and the same thing ($x-y$) from the point of view of sense perception (cf. (A)'s epistemological premise), and yet are two, x , y , in as much as the body-image is not the "that in which" and the "that in which" is not the body-image. But we know that this could not be the case were the body-image a self-standing being. Therefore (A)'s beings cannot, in fact, be beings.¹⁰⁴

I wish now to address a final question: what does Plato gain in this final stage of his argument against (A) by referring to the "that in which" of a body-image as place ($\chiώρα$)? I understand Plato's argument to be the following. (A) claims that only empirical objects are beings. A central premise in its argument for this claim is that all beings, i. e., bodies, occupy place. To refute (A) Plato seizes on this premise. (A) claims that a sensible body (a being) must necessarily "be somewhere in some place" if it is to be anything at all. Place is however separable from that which is in it. So that on which sensible body depends for its being is in fact separable from it. Therefore sensible body, ontologically speaking, resembles an image (52c2) that does not inherently possess that in (or "on") which it must be in order to have being. Because place is separable, "not even that upon which <the sensible body> has come to be is its own" (c2–3). This entails, Plato argues, that sensible body "clings to being in some way, or else it is nothing at all" (c4–5). The force of the argument rests on the separability of place. Plato's argument for separability is the claim that place is a third kind of thing that is to be distinguished from the second kind of thing, sensibles. In sum, Plato has used one of (A)'s own premises to demonstrate that its beings cannot be beings, assuming that beings are things that are "of themselves" (51b8).

It is noteworthy that Plato, in his argument here against (A), does not recur to arguments citing the extreme mutability of sensible bodies. Plato does distinguish sensibles as a second kind of thing because, among other things, they are mutable. But he does not make the fact they are mutable a central premise in an argument against (A), although he could. (A) does seem to be committed to the claim that all being is subject to change in so far as being is sensible body. So (A) would need to explain how changing sensibles are rightly understood to be beings. Plato

104 Zeyl 2000, 42, n 57, comments on the statement as follows: "The final sentence reasserts the absence of the 'being in' relation (and perhaps by extension the 'being of' relation) between the model (Forms) and the subject (Receptacle) whereas the image is 'in' the latter (and 'of' the former), they neither are 'of' nor 'in' each other." I would agree that Plato does assert these relations earlier in the passage, but I do not think this is the correct interpretation of this sentence. It fails to notice that this intended as a refutation of the materialist position and, therefore, it ignores the force of the statement.

does not pursue this but remains focused on how (A)'s physical premise that all being occupies place refutes (A).

How strong an argument has Plato made against (A), that is, would any holder of (A) be persuaded by these arguments? Perhaps not. But Plato has made an interesting case against (A). In as much as the subject of place was not well understood, Plato's argument should have given (A) pause. Still, Plato confronts hardened materialists again in the *Sophist* (246a8–248a2), and there grants that many, "if they hear someone say that body is not being, they will despise that person completely and refuse to hear anything else" (246b1–3). Some, he says, may be impressed by the argument that being may be defined as a "power" to effect something or be affected by something, but this would not be successful against hardened materialists. Would his argument concerning place be more successful? Perhaps the most he could hope for would be that a materialist would be forced to weaken her claims about what sort of thing a being is. The materialist would admit that its beings cannot be said to be what they are "of themselves," that is, she would accept that only ontologically dependent things exist. If a materialist found such a claim unsatisfying, she might be more open to Plato's view that there are other kinds of things, intelligibles, that are beings in the desired sense.

As a kind of summation Plato says, "There are being, room ($\chiώρα$), and coming-to-be, three in three ways, and they were before heaven [i. e., world] (came to be)" (d3–4). I have tried to show how Plato employs the distinction of the three kinds of things, with the third being place, to refute the materialist view (A). "Three in three ways" seems to mean that each kind of thing has distinctive attributes and cosmological function, as should now be evident. The repetition of this distinction serves as a summary of the argument. Plato now joins this summary to the claim that these three "were before heaven (came to be)." If, as Plato claims, the three preceded the production of the world, then they preceded all of (A)'s beings. This constitutes yet another point against (A). Still, this last claim raises a problem. In what sense could it be the case that place could precede the world's generation? Likewise, coming-to-be just is the coming-to-be of the world, so how would coming-to-be precede the coming-to-be of the world? It is likely that there is a reference here to the pre-cosmos, to which the discussion will soon return.

To this point Plato has said very little about view (B), apparently his own view, that the intelligible form Fire is "fire itself of itself." What is the intelligible form Fire? Plato will give us the desired account at 53c4 ff. With the conclusion of his argument against the materialists, Plato returns to his primary concern, the generation of the elements, and will explain what he meant at 49a5–6 when he first spoke of the third Kind as "a receptacle of all coming-to-be as a nurse."

The Nurse Analogy

(52d4–53a7)

And that the nurse of coming-to-be appears¹⁰⁵ to view to be very diverse, being moistened and inflamed and receiving the forms (*μορφάς*), and undergoing whatever other qualities (*πάθη*) accompany the *<elements>*; and that because it is filled with forces¹⁰⁶ that are neither similar nor equally balanced, it is not equally balanced over any *<part of>* itself, but being everywhere unevenly swayed¹⁰⁷ it is shaken (*σείεσθαι*) by the *<elements>* [i. e., their “forces”],¹⁰⁸ and in turn being moved, it shakes them. *<And that>* the moved *<elements>* are separated out and always carried some one way, some another, just as when wheat is winnowed by fans and *<other>* instruments, being shaken and sifted, the dense and heavy *<particles are carried>* in one direction, the fine and light ones are carried to a different place (*ἔδραν*) and settle down. *<And that>* thus, at that time the four kinds *<of elements>*, being shaken by that which receives [i.e., the Receptacle], it being moved like an instrument that produces a shaking, are separated from each other, the most dissimilar the farthest off, but the most similar are pushed together most *<closely>* into the same *<place>*. *<And that>* for this reason each *<element>* holds a different region (*χώραν*) even before the whole came to be, it having been arranged in order out of them.

Several textual notes. (i) The present tense is retained throughout this long sentence (53a7). Translators and commentators have, as a rule, taken the whole passage to be a description of the primordial state of chaos. This cannot be right because Plato plainly says that only “traces” of the elemental bodies existed in the primordial state, but here the “four kinds” of elements exist with all their individual properties or “powers.” The separating motion of the Receptacle (as the “Nurse of coming-to-be”) is an ongoing process that began after the formation of the elements and now helps to keep them in their own regions. As Plato says in 88d1–89a1, it is like exercise that keeps a body healthy (see below).

(ii) *δυνάμεις*. The Receptacle “receives” the geometrical “shapes” (*μορφάς*) of the elements. These shapes are “accompanied” by the secondary qualities, such as heat, cold, wet, and dry, which are produced by these shapes. Because these qualities affect or qualify the Receptacle, making it “moistened” and so forth, they are called “forces” or “powers” (cf. 33a3–4 where hot and cold are called “strong powers”); they are called *πάθη* (lit. affections) because these “powers” are made evident by the effects they produce.

(iii) The expression “not equally balanced” (*ἰσόρροπος*) refers to the scale-pans of a balance; *ἰσόρροπος* therefore means “having an equal downward swing.” If two pans do not contain equal weights and do not have an “equal downward swing,” one moves up and the other down. Here Plato is speaking of

¹⁰⁵ *εκείνων*: “the former things,” that is, the elements. The elements, however, affect the Receptacle, i. e., the Nurse, by virtue of their shape and attendant qualities or “powers.”

the elements whose “powers” affect the Receptacle, causing it to “sway” (*ταλαντούμενη* is the proper term for the movement of a balance arm) “unevenly” (*ἀνωμάλως*). At 57e2–58a1 Plato argues that non-uniformity, or unevenness (*ἀνωμαλότης*), is the source of motion:

In *(a state of)* uniformity motion will never occur. For it is difficult, or rather impossible, that what is to be moved *(should exist)* without that which is to move *(it)*, or that what is to move *(should exist)* without what is to be moved. When these things are absent, there is no motion, and it is impossible that these things ever be uniform. So let us always posit *(that there be)* rest in uniformity, but motion in non-uniformity

The “non-uniformity” here is that of the diverse “powers” of the elemental bodies.

The end of the Digression marks an abrupt return to the discussion that preceded it. At 51b4–6 Plato completed his argument for the claim that the elemental bodies are shaped or qualified “portions” of the Receptacle. He now attempts to explain why we observe that the elemental bodies are, for the most part, collected into separate regions: fire furthest out from earth, then air, then water, and finally earth at the interior.¹⁰⁶ Plato establishes that the elemental bodies occupy these regions because of the winnowing motion of the Nurse as a first step in explaining the formation of compounds. If, as in the primordial chaos, all the “traces” (53b2) of the elements were mixed together in a random fashion, no regular compounds could be produced. Plato therefore first separates them into their kinds, then intermingles portions of them by compression produced by the orderly revolution of the world’s sphere.

As we shall see, compression and the “shaking” of the Receptacle are two distinct and complementary processes. Therefore, to fully understand how the Receptacle is a “nurse,” we must also understand the mechanics of compression. These mechanics are, however, disputed, chiefly because of a confusion of the “shaking” of the Receptacle with the precosmic chaos. Plato explains the mechanics of compression as follows:

The revolution (*περιόδος*) of the Whole, when it had enclosed together the kinds *(of the four elements)*, being spherical and naturally tending to come together upon itself, compressed (*σφίγγει*) all things and allow no empty region at all to remain. On this account fire especially penetrated into all things, air second, as being naturally second in lightness, and the others in the same way. (58a4–b2)

This compression causes (i) that the world has no empty region (*χώραν*), and (ii) that the elements made uppermost by the motion of the Nurse are pressed down-

¹⁰⁶ These regions correspond to what Aristotle calls the “natural place” of the elements (see, e. g., *Cael.* B 13 295b20–296a1). The action of the Nurse seems to be an explanation of what Aristotle calls the “natural motion” of the elements (see, e. g., *Cael.* Γ 2. 301a21 ff).

wards towards the center (according to Simplicius, Proclus made this observation [on *Cael.* 656.6–14]; cf. also Alkinoos § 13 [23.6–10], who combines the two stages: “The elements do not remain separated by region, and they have an unceasing shaking which they give to matter as well, for being compressed by the revolution of the world, they are pushed and pressed towards one another, the more fine into the regions of the more dense”). On the point whether it is the revolving motion or the simply the spherical, enclosed shape of the Whole that caused the compression, see the discussions in Cornford 1937, 243–46, Cherniss 1944, 443–53, Mohr 1985, 126–38.

The most natural meaning of περίοδος is “revolution,” “circuit,” “cycle.” It can also mean “circumference” by extension. Cherniss and Mohr believe that in 58a–c Plato describes the cause of chaotic flux in the world; Cornford mentions no such notion. Cornford thinks that περίοδος means “circumference” but that rotational movement is “inextricably associated” (243) with it. The two factors, confinement and rotation, are at work here. There can be no doubt that, in fact, Plato thinks that the confining circumference of the world *is* rotating with a motion caused and regulated by the world’s soul. περίοδος here, then, means “a rotating circumference.” Cherniss thinks that revolution is the direct cause of compression and that chaotic flux is “the complex of secondary motions produced incidentally by the perfectly rational World-Soul as it induces directly the rational motion of rotation in the spherical plenum” (1977, 258). Mohr claims that περίοδος refers to the circumference of space itself (129) and has nothing to do with the rotation caused by the world’s soul. He argues that the fact that the “natural buoyancy” of elements, such as fire, is constricted by the circumference of space is the cause of the “counter-force that keeps the different particles together” (137). He desires to demonstrate this because it will provide, he thinks, “purely mechanical non-psychic causes” (137) for the chaotic flux he thinks this passage is meant to explain. The text, however, nowhere implies that 58a–c is an explanation of chaotic flux, ἄταχτος κίνησις, or even “Necessity” (48a1). The passage provides a transition between the description of the elemental bodies and their properties to a description of the compounds formed of these bodies. Compounds are formed by “compression” of the elemental bodies. Some explanation of compression is needed, and it is provided here. It may be that, because the circumference of the world is touching the fire particles that would rise further if they could, it “drives” or “pushes” them back towards the center as it moves. Plato may think this, but he does not say it.

Now Cornford, following Taylor, should be right to point out that rotation would throw things outwards, not draw them in (244). Nevertheless, it is clear that the rational motion of the world’s soul and the rational motions of the celestial bodies (the gods) do in fact control the production of the ordered compounds of which animate and inanimate things consist; these things are not, for Plato, solely the products of mechanical causes. 58a–c does not explain the pre-demiurgic state where only “traces” of elements moved about in a disorderly manner.

but attempts to show how the Demiurge's fashioning of an enclosed, single living world and his making of geometrically shaped elemental bodies caused the regular production of the compounds we see about us.

Before I attempt to explain what Plato means by the "shaking," it will be helpful to mention another passage in the *Timaeus* where Plato refers to the "Nurse of coming-to-be" in a discussion of the beneficial effects of exercise on the body. A person who is engaged in mathematics, he says, or some other intellectual pursuit "should also pay back (to himself) the motion of the body by engaging in gymnastics," while a person who is occupied in physical training should "pay back (to himself) in return the motions of the soul by taking up music and every kind of philosophy" (88c1–5). The reason for this is that the body (like the Receptacle) is "heated and cooled internally by what comes in from outside" (*ὑπὸ τῶν εἰσιόντων* [e. g., food; cf. 50c1]), "is dried out and made wet by what is outside" (*ὑπὸ τῶν ἔξωθεν*) and undergoes (*πάσχοντος*) that which accompanies these things (*τούτοις ἀκόλουθα* [d3]: cf. *ὅσα ἄλλα τούτοις πάθη συνέπεται* [52d6–e1]) "by the agency of both (kinds of) motions" (i. e., the effects of the internal and external forces [88d1–4]). This is the general state of a man. Now if the body simply "remains still and hands itself over to the (se) motions, it, being overpowered, perishes" (d4–5). But if someone

imitates that which we call the Nurisher and Nurse (*τροφὸν καὶ τιθήντην*) of the Whole and never allows especially the body to remain still, but instead moves (it) and constantly produces in it certain shaking motions (*σεισμούς*) throughout its whole extent, he will be naturally defended against those internal and external motions, and moderately shaking (it), he will set in order (*εἰς τάξιν καταχοσμῆ*) with regard to each other both the affections (*παθήματα*) that wander about the body and the particles according to their kinship, just as we said above when we spoke of the Whole (88d6–e4)

Exercise preserves the body in its proper state where growth exceeds decay. Plato conceives of the human body as an interactive system of complex structures (that is, organs, tissues, bones, bodily fluids such as the blood, and so on), constructed of various proportions of the four elemental bodies and activated by soul. If the proportion of the elemental bodies in a given structure is offset by excess or lack in quantity, the structure malfunctions and causes harm to the body as a whole. The proportions are maintained by appropriate motions of the body. This is so because the elemental components of the body that stand in these proportions are constantly being lost and replenished. The motions, therefore, regulate the ebb and flow of the elemental bodies in the body as a whole and in the various structures in particular. The elements are attended by "affections," for example, hot, cold, wet, dry. These "affections" must be located in the proper structures to the proper degree. To maintain health, therefore, a person should engage in exercises that support or produce these motions. The body cannot help being affected by the environment and (e. g.) food, but exercise defends it against their ill ef-

fects.¹⁰⁷ The claim that concerns us is that when someone consistently “shakes” the body by exercise, Plato says that he imitates the Nurse that is constantly shaking.

The effects that exercise has on the body resemble the effects that the shaking of the Receptacle has on the constitution of the world. In speaking of the shaking of the Receptacle Plato describes both a primordial process and an ongoing one. The primordial process of separation is modified by the mechanics of compression with the result that we can, for example, build fires down here on earth’s surface. But just as compression is ongoing, so must separation be, thus producing a kind of balance. If the shaking, the cause of separation, were to cease, the elemental bodies would be pressed into a homogeneous mixture from which nothing could be constructed due to the absence of proportionate quantities of different elements. If the compression were to cease, the world would consist of mere strata of elements from which, again, nothing could be constructed. The effect of shaking is to group together elemental bodies of the same kind along with their attendant “affections” or “powers” by a process of separation of the kinds from one another. The result of this grouping is that collections of like elemental bodies have a proper place:

In accord with these interactions all of the (elemental bodies) exchange regions ($\chiώρας$); for on account of the motion of “that which receives” [i. e., the Receptacle] the multitude of each kind has stood apart (each) at its own place ($\tauόπον$): those on each occasion that have become dissimilar to themselves but similar to others are carried on account of the shaking ($\sigmaεισμόν$) towards the place ($\tauόπον$) of those to whichever they have become similar. (57b7–c6)

So the place that the elemental bodies and their affections have in the world is caused by the shaking (see 53a2, 6). Compression modifies this arrangement with the effect that smaller groups of elemental bodies are located within larger collections of different elements.¹⁰⁸ Thanks to the discussion of place in the Digres-

¹⁰⁷ Cf. the Hippocratic treatise *De diaeta* 2.62 [184] has the following to say about taking walks for exercise: “Walks are natural, more so than other exercises, but have something that does violence as well. Their power is as follows: a walk after supper dries out the belly and the body and does not allow the stomach to become fat for the reason that when a man moves, the foods and the body become hot, and the flesh draws out the liquid and does not allow it to collect around the belly.” Exercise re-establishes the body’s natural order by moving about the liquids, or humors, by heating and cooling

¹⁰⁸ See also 58b6–c4 where Plato explains that the constant motion of the elemental bodies is also caused by the non-uniformity among the different sizes of elemental bodies that are pressed together by the compression. The larger bodies, such as air and water, by reason of their greater size, drive the smaller bodies, such as fire, to “their own places ($\tauόπους$).” while the smaller, being pushed between the larger, separate them out into their places. I am uncertain whether or not Plato means, ultimately, to distinguish this cause of separation into proper regions from the Receptacle’s shaking. Difference in size could be, in Plato’s view, just one more way in which the Receptacle is “affected” by non-uniformity.

sion we know that because the elements are bodies, they must be in a place. Their places are the positions within the framework of the whole world that these bodies occupy relative to the positions of other elemental bodies. Plato explicitly denies that the place of the elemental bodies in the world is established on an absolute locational grid. Up and down are not determined by reference to a center point. Rather, up and down are relative to where an elemental body is found with respect to its place determined by the shaking, which one might call its “home region” (see Zeyl 2000, lxxvi). “Down is the place (*tόπον*) to which such a *(body)* moves” ultimately as a result of the shaking and “upward” is motion away from that place (63e5–7). The places, therefore, that the elemental bodies occupy are not identified by reference to an absolute grid but relative to the “home region” established by the Receptacle’s shaking. There is, therefore, no hint that Plato conceived of the place that the elements occupy as something that is established independently of the elemental bodies themselves.

What, we should like to know, is this shaking? To begin with, Plato is unusually informative about the cause of the Receptacle’s shaking.

The nurse of coming-to-be appears to view to be very diverse, being moistened and inflamed and receiving the forms, and undergoing whatever other qualities (or, affections: *πάθη*) accompany the *(elements)*; and that because it is filled with forces that are neither similar nor equally balanced, it is not equally balanced over any *(part of)* itself, but being everywhere unevenly swayed it is shaken by the *(elements* [i. e., their “forces”]), and in turn being moved, it shakes them. (52d4–e5)

We know from 51b4–6 that fire is a “portion” of the Receptacle that is “inflamed,” water a portion that is moistened, and so on. It seems that Plato is now considering the Receptacle as a whole. This would explain why it “appears very diverse, being moistened and inflamed” and having the attendant qualities or affections. That is, seen as a whole it is wet, hot, cold, dry, hard, soft, and so on. But how can the Receptacle as a whole “appear” to us? The sum total of all the four elements is all the physical world. In this world we see some large and small collections of earth, air, fire, and water, but a great many of these elemental bodies are conjoined into the familiar objects of our world, such as birds, trees, buildings. In such objects we do not see the four elements, but only the product of their combination. But most of the world we experience is made up of such objects. How, then, are we going to view the Receptacle as a whole being qualified by the elemental qualities, and so, being “very diverse”? Clearly, this would be impossible. So Plato must be asking us to look at the physical world from a somewhat different vantage point. I think the vantage point he asks us to take is that which we might now think to be the perspective of a particle physicist. Although I and such a physicist live in and experience the same world, our perspectives on what constitutes the physical world are both quite different and, in a qualified sense, equally true. What he tells me about the place of electrons, for example – namely that

they have none until being observed – is true but quite difficult for me grasp because all the objects of the world as I see it occupy a place. And we are not talking about different things, in as much as my objects are ultimately constituted of his subatomic particles. So, although we both look at the same thing, we will differently describe what we see. Plato asks us to consider the objects of our common experience from a vantage point from which one gazes at the ultimate constituents of the physical world.¹⁰⁹ From this vantage point we can behold, in a reductionist way, everything that “comes to be,” everything that is physical body. So what is it that we see?

What we see is the ultimate constituents “being unevenly swayed” and “shaking,” carried about by a “winnowing” motion, constantly changing place, combining into larger entities and breaking away from the same. Perhaps it would help to return to the claim that bodily exercise “imitates” the shaking of the Receptacle. The human body is made of molecules. If we represent to our minds a human body as just a vast collection of molecules, we can easily imagine (putting aside our modern physiological conceptions) that the motions of exercise will cause these molecules to circulate, to churn about within the framework of the body as a whole. Plato is suggesting that the physical world can be viewed in the same way. If we conceive of it as a vast collection of ultimate particles, these will seem to us to be carried about by a motion throughout the whole and the whole will seem to “shake.” The cause of the Receptacle’s shaking is the Receptacle’s “non-uniformity” that is due to the various “powers” that accompany the elemental bodies.¹¹⁰ It follows that this motion is an effect of “necessity,” as Plato puts it.

At the very beginning of the passage about the Receptacle Plato says, it will be remembered, “The foregoing, except a brief *(digression)*, has presented the *(things)* that have been crafted through intelligence, but now the *(things)* that have come to be through necessity must have a comparable account” (47e3–5). I argued above that “necessity” refers to a state of affairs that has been ordered or rendered susceptible to the dictates of intelligence in some basic way. Resembling exercise, the shaking of the Receptacle is ordered in a way and has a beneficial effect on the whole; in fact, the whole, as a cosmos, could not exist without it. I also argued that the obscure statement, “the kind of the wandering cause, how it naturally moves, must also be mixed in” (48a6–7), refers to the shaking of the Receptacle. I now wish to discuss the “wandering ($\pi\lambda\alpha\nu\mu\epsilon\nu\eta$) cause” a bit more. What is “wandering”? In the discussion of exercise, quoted above, Plato says that “moderately shaking *(it)*, he will set in order with regard to each other both the

¹⁰⁹ Cf. the discussion of the speed of elemental change, above (pp. 76–78). There I suggested that Plato’s description of elemental change assumes that a smaller body changes more quickly. Plato’s individual elemental bodies are, in fact, too small to see (56b7–c2).

¹¹⁰ Cf. e. g., Nikolaou 1998, 185 and n. 144 with references

affections (*παθήματα*) that wander about (*πλανώμενα*) the body and the particles according to their kinship" (88e2–3). What exercise sets in order is what "wanders" throughout the body; this is various "affections" and "particles" (*μέρη*: this likely refers to the humors that are ultimately composed of the elemental bodies). Plato thinks that affections and particles can wander or drift about the body and that to maintain good health these particles and affections should be constantly returned to their proper regions. Plato also thinks that there is a parallel between the shaking of the Receptacle and exercise, even though exercise is presumably governed directly by human intelligence while the shaking belongs to Necessity. Now if what wanders in the human body is what exercise puts in order, exercise cannot be a form of wandering. This seems to suggest that the shaking of the Receptacle is not a form of wandering. But here precision is needed.

Plato says that "being everywhere unevenly swayed it is shaken by the elements [i. e., their "forces"]>, and in turn being moved, it shakes them" (52e3–5). Plato speaks of a two-stage process: (i) the non-uniformity of elements (or "parts" of the Receptacle) and their "forces" cause the Receptacle to shake; (ii) the shaking of the Receptacle causes the elements and their "forces" to move into distinct regions ("it shakes them"). There is reason to think, as I just noted, that the shaking of the Receptacle (= ii) is not a form of wandering. Now the effect of the shaking is that similar elemental bodies move towards each other and away from dissimilar ones. Plato mentions at 58a2–5 that this separating motion would eventually be completed and that the elemental bodies would stop moving (since they would no longer be in a state of non-uniformity) were it not for the revolution of the whole, which I discussed above. The revolution counteracts the process of separation. The result is that while some elemental bodies of a certain kind are moving towards their "home region," that is to say downward, other elemental bodies of the same kind are moving away from their "home region," that is upward. So in fact the elemental bodies with their "forces" may seem to be wandering about, some going up, others down. This means that non-uniformity persists, and this causes the Receptacle to continue to shake. This is stage (i). Stage (i) appears to be a kind of "wandering," just as the affections of the human body appear to wander about. The answer, then, to the question, What is wandering? is that the elemental bodies – which are moistened, heated, etc. "parts" of the Receptacle – are wandering. The "wandering cause," therefore, is the fact that the elemental bodies are in this continual state of motion, which – with the bodies' attendant qualities or "forces" – causes the Receptacle to shake, which in turn causes the elemental bodies to move towards their "home regions." This state of motion is not erratic or disordered,¹¹¹ nor is the shaking that results from it. Therefore it is not to be confused with the precosmic "disorderly motion" to which Plato immediately turns.

¹¹¹ It is, therefore, misleading to translate the expression *πλανώμενη αίτια* as the "errant cause" (e. g., Cornford 1937, 160).

With stages (i) and (ii) Plato conceives of a cycle of motion. This motion is partly independent of soul-initiated motion, partly dependent on it. Non-uniformity causes motion independently of soul,¹¹² but if allowed to proceed without interruption, it would eventually produce a state of uniformity which in turn would cause rest. But the separating motion caused by non-uniformity is counteracted by revolution which has soul as its source. In as much as soul-initiated motion is directed by Intelligence, the cycle of motion is a case of Intelligence "persuading" Necessity. But the persuasion goes further than this. The Receptacle shakes because of the "forces" or qualities that belong to the elemental bodies. These bodies, as Plato will soon explain, are fashioned by Intelligence as regular constructions following geometric patterns. Because their qualities are determined by their structure, the qualities that cause the shaking are determined or ordered. Therefore the shaking, though being a form of Necessity, is in this way as well "persuaded" by Intelligence. Plato's emphasis on the ordered nature of this fundamental cosmic motion suggests that this claim is in part a polemic against thinkers who held that the world could be formed by random motions of bodies; the atomists held such a view. The atomists, it seems, thought that a world could be generated only if their atoms could move, since only movement could bring them together into compounds. But motion is locomotion, and so in order to move, they thought, there must be empty place (*tóπος*) or void that is not dependent on body (see Aristotle, *Phys.* Δ 8. 216a22–24). Aristotle complains that the atomists did not have an explanation of the cause of motion (*Met.* A 4. 985b19–20), which seems to mean that they did not explain why bodies will move into an empty place or void if there were such a thing; they simply claimed that they did and that motion is everlasting (*Phys.* Θ 1. 252a32–b1). For the purposes of world production Plato's cycle of motion constitutes a rejection of atomist random motion, which Plato relegates to a precosmic state. It is significant, I think, that the cycle of motion largely concerns the shaking of the Receptacle, whose shaking is caused by non-uniformity of its "parts." This is significant because there seems to be a conscious intent on Plato's part to exclude (empty) place as a cause of motion. This, again, seems to be part of his polemic against atomist, or at least materialist, thinking. But those who claim that the Receptacle is space, or place in some sense, will deprive Plato of this argument against the atomists.

The importance of the Nurse Analogy is often overlooked. This may be partly because it is a source of embarrassment for those who hold that the Receptacle is space and partly because the shaking of the Nurse is often wrongly identified with the chaotic movement of the pre-cosmos. The shaking of the Receptacle is essential for the production and maintenance of the world. The fact that Plato's

¹¹² On which see Easterling 1967.

first reference to the Receptacle is made in terms referring to its shaking (the “wandering cause”) and his first mention of the Receptacle as “the receiver of all coming-to-be *as a nurse*” (49a5–6) are indications of this. We may find it difficult to ascribe much importance to the empirical observation that earth, air, fire, and water seem to be concentrated in distinct or “home” regions. But for Plato, just as for Aristotle and earlier authors, this was a fact of primary significance that had to have an explanation. The shaking of the Receptacle is Plato’s explanation. This explanation did not satisfy Aristotle, of course, and so he developed the complex notion of natural place. For a lucid treatment of this notion and its importance for Aristotle I would invite the reader to see Lang 1998.

Plato completes this section with the comment: “⟨And that⟩ for this reason each ⟨element⟩ holds a different region ($\chiώραν$) [i. e., from the others] even before the whole came to be, it having been arranged in order out of them” (53a6–7). This presumably explains, at least in part, the statement at the end of the Digression: “Let this statement, then, be given in sum as reckoned by my verdict: that there are being, $\chiώρα$, and coming-to-be, three in three ways, and *they were before heaven [or, the world] <came to be>*” (52d3–4). The shaking established the determinate places or regions ($\chiώρας$) of the elemental bodies before the world as we know it came to be, their separation being a preliminary step in the world’s generation. Under this interpretation the claim that $\chiώρα$ (place) was before the world came to be means just that the elemental bodies, by reason of the shaking of the Receptacle, came to occupy determinate places before the world was generated in its present form. If this is right, the words “they were before heaven came to be” are not solemn indicators that place ($\chiώρα$) is some kind of cosmic first principle for Plato, as is sometimes thought. Here Plato is merely returning us to his cosmological account. If Plato does have such a view of place, this would not be indicated by claim that $\chiώρα$ was “before the heaven came to be.”

Before I proceed to the subject of the pre-cosmos, I wish to note the shaking of the Receptacle is strong evidence against the Space Interpretation, for it is not possible to explain how space (at least Euclidean space; I assume that Plato had not considered the possible consequences of Einstein’s General Theory of Relativity) can shake. Recognizing this, adherents of the Space Interpretation often claim that the talk of shaking must not be taken literally. For instance, Taylor 1928, 352, says that “the language about the action of the contents of the $\dot{\nu}\piοδοχή$ on the $\dot{\nu}\piοδοχή$ itself, which ‘shakes it,’ is purely mythical.” And Cornford 1937, 209: “Plato cannot mean that Space really shakes or is shaken by the qualities.” But the Receptacle does really shake, so it cannot be space. Plato’s claim that the Receptacle shakes is also evidence that it is not place. We do not think that place can shake, if for no other reason than the fact that shaking is a form of locomotion. If place were to shake it would change place. This makes no sense.

The Pre-cosmos (again)

The Nurse Analogy explains the collection into regions by the claim that the Receptacle, by virtue of its "shaking," rearranges these portions of itself. The Receptacle "shakes" because it is affected by the qualities of the elemental bodies that are its portions. Plato, however, has not yet explained the construction of the elemental bodies and how their structure gives rise to their qualities. This is to say, Plato has gotten ahead of himself. The reason is clear: he wishes to complete his account of the Receptacle in order to proceed to the construction of the elements. The *Timaeus* attempts to provide a rather systematic account of the world, proceeding step by step, but the demands of explanation and controversy sometimes disturb the order. The logical order should be, perhaps:

- (i) the three Kinds;
- (ii) the pre-cosmos;
- (iii) the Receptacle;
- (iv) the construction of the elements;
- (v) the arrangement of the elements into regions;
- (vi) the later stages of world formation.

Plato's actual account has a somewhat different order:

- (i) the three Kinds;
- (ii) elemental coming-to-be and the Receptacle;
- (iii) the Digression, place;
- (iv) the arrangement of the elements into regions;
- (v) the pre-cosmos;
- (vi) the construction of the elements;
- (vii) the later stages of world formation.

Plato's reasons for the order he uses are mostly apparent, but why, it may be asked, does the account of the pre-cosmos (v) follow directly after the Nurse Analogy (iv)? Plato wants to posit a chaotic pre-cosmos that Intelligence renders orderly by the construction of regular elemental bodies. He therefore feels that the appropriate place to mention this state is just before he turns to the account of elemental structure. I think, then, that stage (iv) is not in any sense a precondition of stage (v), but stage (v) is a kind of precondition of stage (vi). Still, it may be that Plato wishes make a contrast between the shaking of the Receptacle and the chaos of the pre-cosmos. Having spoken of the shaking and its essential role in the production and maintenance of the world, he now compares to this another kind of motion that has no such effects.

This world is an ordered world, and to be ordered is, in Plato's opinion, to be a product of Intelligence's operation. If we can, in some sense, say that Intelligence intervened to produce an ordered world, it would have to be the case that either there was nothing at all before Intelligence's intervention or that there was

something that had no order. Because Plato and all other Greek philosophers regarded it as self-evident that nothing can come of nothing, he must think that disorder existed before the intervention. This state of affairs would be a kind of chaos,¹¹³ that is, a state of affairs in which order is absent. Perhaps another reason why Plato posits a precosmic state is, as I mentioned above, his anti-atomist or anti-materialist polemic. All thinkers in Plato's time would grant, I think, that the world we witness is an ordered state of affairs. There seem to be at least three ways to explain the existence of this order: (i) it came about as a result of random interaction of bodies that have certain definite properties; (ii) order is introduced from a non-physical source and, therefore, imposed on or built into what is physical; (iii) order is an essential factor of the nature of physical things: to be such a thing is to be part of a cosmic order. Explanation (i) is atomist or, more generally, materialist; (ii) is Platonic; (iii) is Aristotelian. Both (i) and (ii) entail that the world (or worlds) had an origin, in some sense, and therefore allow one to conceive of a precosmic state. (iii) entails that the world has no origin and therefore talk of a precosmic state is senseless. As unsatisfying as Plato's account of the pre-cosmos may be, it does serve as an alternative to the materialist account (i) and, if one accepts the claims of (ii), it has plausibility. For example, the modern theory that the entire universe, including space and time, was preceded by and arose out of an extremely small, extremely dense bit of something seems, at first, quite implausible. But the theory becomes at least plausible when one understands and accepts the laws (or theories) of physics on which the theory is based.

(53a6–b5)

⟨And that⟩ for this reason each ⟨element⟩ holds a different region even before the Whole came to be, it having been arranged in order out of them. And as for the ⟨state⟩ which was before, all the ⟨elements⟩ existed in a manner bereft of *logos* and measure. But when the Whole tried to be arranged in order, first fire, water, earth, and air – they having certain traces (*τύχη*) of themselves, but being altogether disposed just as it is probable that all would be ⟨disposed⟩ when God is absent from something, these things then being naturally thus – were shaped¹¹⁴ with both forms and numbers.

Plato's account of the pre-cosmos makes two basic claims: (a) about motions, and (b) about the objects in motion. (a) claims that the motions are "out of tune," "disorderly," and apparently "random." (b) claims that the bodies produced by these motions are mere "traces" of the elemental bodies produced by Intelligence.

113 On early Greek conceptions of chaos see Mondi 1989

114 διεσχηματίσατο is usually taken as a middle with "God" as the understood subject. The following translation is also possible, taking ταῦτα not as the direct object (assuming God as subject) or subject of διεσχηματίσατο but with πεφυκότα: "it (i.e., the Whole) was shaped with both forms and numbers." This, in fact, would seem more natural, as the Whole is the subject of the ὅτε clause. Plato, however, goes on to discuss God's proper construction of the elements and, given their geometrical structure, διεσχηματίσατο seems to be the appropriate verb.

To begin with it should be noted that these claims underscore Plato's view of the causal linkage between motions and the formation of bodies: regular motions produce regular compounds, that is, bodies, while irregular motions produce irregular compounds. Before treating claims (a) and (b) in more detail I shall cite two further passages where Plato discusses the pre-cosmos.

The God, having willed that all things be good and that there be nothing bad in as far as such was possible, and accordingly taking over everything that was visible – which was not leading a quiet existence but was being moved out of tune and disorderly (*χινούμενον πλημμελῶς καὶ ἀτάκτως*) – out of disorder he brought it into order, reckoning that this state was clearly better than the former. (30a2–6)

As was said in the beginning, when these (elemental bodies) were in a disorderly state (*ἀτάκτως ἔχοντα*), the God made within each one of them – both in relation each to itself and in relation each to the others – proportions (*συμμετρίας*), as many and wherever it was possible for them to exist according to a due *logos* (*ἀνάλογα*) and be proportionate. For at that time nothing had any part in proportions – in so far as this did not chance to happen [or, happen by chance (*ὅσον μὴ τύχη*)] – nor was there anything at all deserving to be called by the names now used, such as fire, water, or any of the rest of them. But he set in order all these (elemental bodies) first; then he constructed this Whole out of them. (69b2–c1)¹¹⁵

There has been long debate over Plato's claim that the pre-cosmos was in a state of "disorderly motion,"¹¹⁶ claim (a). Aristotle rejects the claim, arguing that such motion must have been either natural or unnatural (i. e., "forced"). If it were natural, there would be a cosmos, and disorder would be natural, which is absurd. If unnatural (*παρὰ φύσιν*), there must be a "nature" contrary to which this motion moves, but the existence of a "nature" implies the existence of a cosmos (see *Cael. Γ* 2. 300b18–301a12). Clearly Plato would reject the first premise of this argument, namely, that "disorderly motion" is either natural or unnatural in this context. Alexander of Aphrodisias, by Simplicius' report, argued that:

If the elements moved in a disorderly manner by themselves for an infinite time, and then began at a certain time to be moved in an orderly manner by something [or, someone] (else), the motion with which they moved by themselves would be natural for them, since things moved according to the principle that is in themselves move according to nature. But natural motion is appropriate to order and a cosmos. (*On Cael.* 585.21–26)

But Plato seems to have envisioned a state in which things, such as they were, had no natures in the Aristotelian sense of the word that Alexander employs (cf. *Phys. B* 1. 192b32–33). Even granting to Plato such a conception of nature, he

¹¹⁵ Cf. *Plt.* 273b4–6.

¹¹⁶ See the references in Vlastos 1939 and Herter 1957.

would say that a thing has a principle of motion in itself by virtue of soul (cf. *Phdr.* 245c7–9, e4–6). The pre-cosmos precedes the existence of soul. Therefore a thing in that state had no such “nature.” Even so, Alexander may have a point, which will become apparent in what follows.

One would like to know why the motions of the pre-cosmos are erratic, random. The answer referring to the god’s absence only raises the question why, in the god’s absence, would things move in such a manner. Even granting the controversial claim that order is a product of Intelligence, why must the absence of Intelligence’s effect result in disorder? Plato claims that physical processes, if left entirely to themselves, will produce effects that do not exhibit order: “once isolated from intelligence (these causes) effect (ἐξεργάζονται) what is random (and) disordered (τὸ τυχὸν ἀτακτόν) on every occasion” (46e5–6). The fact that such effects will occur “on every occasion” suggests that physical processes (insofar as they are isolated from Intelligence) *necessarily* produce random and disordered effects. This may seem strange to us, perhaps because, in the tradition of Aristotle, we think that order and non-randomness are integral factors in what physical things are. But Plato claimed not to think this. Order and the non-random are added factors, added by Intelligence. The pre-cosmos envisions a state of affairs in which physical processes proceed without alien, so to speak, additions. Such processes cannot happen without motion, so we may assume that motion in this state would also be disordered and random. Furthermore, Plato thinks that a thing’s motion is determined largely by its physical properties; for example, fire bodies, by virtue of their shape, move quickly. So things that happen to be formed by disordered processes and having irregular shapes will not move in an orderly way. If this is why there was disorderly motion in the pre-cosmos, then the motion derives from the things that move, their properties and a fact about physical processes. This suggests that the motion is, in fact, derived from “a principle that is in themselves,” as Alexander says, a nature. I suspect Plato would reply that a true principle is not at work in this case but a form of Necessity. A true principle, in Plato’s view, would produce results that are directed towards an end; only Intelligence has awareness of ends; but in the pre-cosmos Intelligence is “absent”; therefore motion in the pre-cosmos was not derived from a principle inherent in randomly formed bodies.

Many commentators on this passage do not distinguish clearly between the shaking of the Receptacle and the disorderly motion of the pre-cosmos. For example, Herter 1957, 340, argues that the unbalanced “forces,” mentioned in the Nurse Analogy, cause the “disorderly motion,” which in turn produces the “traces.” This interpretation presumes that the “forces” exist somehow independently of the elemental bodies and their traces, but this is a misreading of 52d6–e5; it would also require that ὅπ’ ἔχεινων at e4 refer to the “forces” (*δυνάμεις*) although αὐτὸν πάλιν ἔχειν at e4–5 must refer to the elements; this seems quite unlikely. The Receptacle is said to shake because of the forces, but no direct mention is made of the Receptacle in the account of the pre-cosmos. It is plau-

sible, at least, that because the “traces,” which I will discuss below, are presumably disordered, the “forces” connected with them will also be disordered, and this might cause the Receptacle to move in a disorderly way. Plato may think this, but he does not say it. We know that the Receptacle “receives” the coming-to-be of the elements; it may also be the case that it “receives” the physical processes that produce the “traces.” I shall return to this point shortly.

(b) claims that the bodies produced by these motions are mere “traces” of the elemental bodies produced by Intelligence. This is hopelessly obscure. We should be thankful that Plato brings up the subject again in the passage cited above: “For at that time nothing had any part in proportions – in so far as this did not chance to happen – nor was there anything at all deserving to be called by the names now used, such as fire, water, or any of the rest of them” (69b5–8). It seems that in Plato’s conception of the pre-cosmos there were basic things that formed by random, disordered processes. These basic things were “visible,” that is, were bodies of some kind. The bodies were so irregular and had such diverse properties that although they were basic, as the four elements are basic, they could not be indicated by the words “fire” or “water,” which refer to particular kinds of bodies having specific properties. The passage at 69b5–8 seems to suggest that the term “trace” is not meant to indicate that the basic things in the pre-cosmos faintly resembled earth, air, fire, and water, but that bodies happened to come about that served as components for larger, irregular compounds. So the “trace” more likely refers to the function than to the shape and properties. But if, on the contrary, precosmic water faintly resembled cosmic water, why would Plato say that there was “nothing at all deserving of the name” water? Surely one could say that it was “water-like” in as much as there is a resemblance; but if so, the name “water” can be applied after all. One could, of course, reply that Plato means to use the name strictly: if something does not have all the properties of water, it cannot be called water. Perhaps, but I do not think the interpretation that “traces” means faint resemblances increases the cogency of the passage. I will attempt to show why this is the case by the following argument. We shall soon be told that the elemental body to which the name “fire” is applied is pyramidal in shape and composed of “triangles.” A faint resemblance of this body would, presumably, be shaped like a pyramid in some way and be composed of things that somehow resemble triangles. These bodies would combine and act in ways that faintly resemble the way fire combines and acts, in so far as the disorderly motion allowed for it. This would be the case for the “traces” of the other elements as well. So the pre-cosmos would be, to this extent, a faint resemblance of the cosmos produced by Intelligence. Intelligence, then, just improves on what bare physical processes already produce. This cannot be what Plato is saying.¹¹⁷ One might

117 Sayre 1998, 111, argues that if the traces are, e. g., fire-like in some significant way they must be so by participation in the Form Fire, but the traces refer to a stage that precedes such participation.

argue that most of the precosmic things were not resemblances at all, since the resemblances would be a chance occurrence; therefore the pre-cosmos would not even faintly resemble the actual one. But this objection is itself an objection to the resemblance interpretation. If only a very few bits of the precosmic stuff resembled the elements in some way, how can Plato claim that only these few bits were the objects which Intelligence refashioned (53b1–5)? This is not plausible. If, on the other hand, by “traces” Plato means only that random motion produces irregular basic materials – in that sense “elements” – which may chance to combine into larger structures that move about, then we can readily see why Intelligence must intercede to cause radical change. It does so by applying “forms and numbers,” which physical processes alone seem to be unable to reproduce.

A question remains about the Receptacle’s role in the pre-cosmos. We know that it “receives” the coming-to-be of the elemental bodies in Intelligence’s cosmos. Does it also “receive” the coming-to-be of the “traces,” the basic stuffs of the pre-cosmos? The Receptacle “receives” coming-to-be. But coming-to-be is coming-to-be *F* it is *F*-directed change. Whatever was formed in the pre-cosmos was formed by chance, and chance causes random change, and that will not be *F*-directed change. Therefore either the Receptacle of the pre-cosmos did not receive the coming-to-be of the “traces” – because the term “come-to-be” does properly apply to them – or it received a different kind of coming-to-be. Plato says that coming-to-be “was even before the world came to be” (52d3–4). Assuming that this does not just mean that coming-to-be as a metaphysical principle pre-existed the world or that coming-to-be originated as a first step in the production of the cosmos, but makes the claim that coming-to-be actually occurred in the precosmic state, we must accept that undirected (or one might say non-theological) coming-to-be occurred. But if it occurred, it must have occurred “in” something, namely, the Receptacle. This seems plausible because Plato carefully establishes the Receptacle’s neutrality towards the elemental shapes that come to be in it. Therefore it should receive irregular, chaotically formed shapes as well. This indicates that it does not have some sort of predisposition to receive “form and number.” This seems right because from the very start Plato has distinguished the Receptacle as a third kind of thing, distinct from “being,” while “form and number” for Plato are among the “things that are.”¹¹⁸

Sayre, it bears saying, thinks that the traces are factors in the present world that are “indigenous” to the Receptacle; as such they do not belong only to the pre-cosmos.

¹¹⁸ For further discussion of the Receptacle and the pre-cosmos see ch. 4, pp. 187–88.

Transition to the account of the structure of the elemental bodies

(53b5–c3)

That the God constructed the <elemental bodies> to be the most beautiful and as good as possible out of <things> that were not thus, let it be said by us consistently on each occasion. But now I must to try to make plain to you the arrangement (*διάταξις*) and coming-to-be of each one of them by an uncustomary argument; but, since you take part in the pathways of learning¹¹⁹ by which it is necessary to demonstrate what is said, you will follow me.

Plato now proceeds to state his theory of the construction of the elemental bodies; no further reference is made to the third Kind. If the distinction of three Kinds is so fundamental, one may well wonder why Plato does not return to it. Plato draws the metaphysical distinction between the Kinds in order to clarify the nature of the Receptacle. Once he has distinguished *what* is being shaped or formed, he can proceed with his discussion of the structure of the elements.¹²⁰ The distinction of the three Kinds, then, is viewed as a necessary preliminary for the exposition of his elemental theory. In this chapter I have argued that in 47e3–53c3 Plato begins with the metaphysical distinction of the third Kind and then, on the basis of this distinction, proceeds to argue for the existence of a “physical” member of this Kind, the Receptacle. He introduces the Receptacle only as a preliminary for his account of the formation of the elemental bodies. The Receptacle’s only function in the cosmos is to “foster” (in various senses) elemental coming-to-be and, by its motions, to distribute the elements into regions within the cosmos. I have argued, further, that the Receptacle is neither space nor place. Plato’s discussion of *χώρα* occurs in the context of an argument against a materialist view. Because this view deploys an argument that has as a premise the empirical fact that all bodies are in place, Plato gives an account of place that supports his own view. This account states that place, like the Receptacle, is a third kind of thing, a member of the third Kind. The account of place, however, is a digression from the subject of elemental coming-to-be, to which he soon returns, explaining the important role that the Receptacle’s shaking has in Intelligence’s production of the world.

Even if one were to shed light on all the obscurities of Plato’s treatment of the Receptacle, one would still be left with this central question: what, actually, is the Receptacle? If Plato provides an answer to this question, it is embedded in his detailed account of the coming-to-be of the elemental bodies for the very reason that the Receptacle was introduced to support this account. I now turn to this account, chiefly with the intention of discovering an answer to the question posed.

¹¹⁹ That is, geometry and mathematics.

¹²⁰ Note, for example, that once Plato has discussed the World Soul, he does not return to it. In general the *Tim.* does not make the systematic use of established claims that we find, e.g., in Aristotle’s works on the natural world.

Chapter IV

Πλάτων τὸ ταῖς γεννωμέναις ποιότησιν ὑποκείμενον
στοιχείον ἔξενρόν, ὃ νῦν ὅλην καὶ φύσιν καλούσιν,
πολλῶν ἀπήλλαξε καὶ μεγάλων ἀποριῶν τοὺς φιλοσόφους
(Plutarch, *De defectu oraculorum* 10. 414f–415a [70.16–18])

The Triangles and the Receptacle

In Chapter Three I argued that Plato introduced the Receptacle as a preliminary for his account of the structure of the elemental bodies. The Receptacle “receives” the coming-to-be of the elements and, by its shaking, it separates them into distinct regions. But as yet Plato has given us no account of the elements whose coming-to-be the Receptacle “receives” and that the Receptacle’s shaking separates. Plato now proceeds directly to this subject. Plato sets forth his famous theory of the structure of the four elemental bodies at 53c4–55c6, a theory that was immediately challenged by Aristotle.¹ The theory has been treated on many occasions and the details of his geometrical construction are not in doubt.² I shall not, therefore, discuss this. What remains controversial is how we are to interpret the claim that all bodies are composed of various sizes of four regular geometrical solids, or more generally, that facts about geometrical abstract entities can give an account of body. This problem is made most evident by Plato’s claim that the elemental bodies are constructed of triangles. In what follows I shall address this problem, but my specific interest is in what the theory of elemental construction tells us about the Receptacle.

The Theory

At 31b4–32c4 Plato argues that there are four elements: earth, fire, air, and water. In as much as “that which comes to be must be a kind of body (σωματοειδές), visible, and tangible” (31b4–5), and fire makes things visible while earth makes

1 Aristotle, by Simplicius’ count, levels fifteen arguments against the theory (*Cael.* Γ 7–8, 305b30–307b27). See Simplicius’ commentary on *Cael.*, 638–73. For a convenient listing of the arguments see Taylor 1928, 404–7; cf. also Cherniss 1944, 149–65, Claghorn 1954, 30–36.

2 See, e.g., Cornford 1937, 216 ff, Friedlander 1949; Vlastos 1975, Zeyl 2000, lxvi–lxix.

them tangible,³ "The god began to compose the body of the Whole out of fire and earth" (b6–8). But so that these two may be bound together by "bonds" (c1), water and air are introduced as the mean terms of a geometrical proportion between the extremes of earth and fire, causing all four to form one whole on account of the proportion in which they stand (31b4–32c4). After arguing that the Whole is composed only of these ultimate physical constituents, Plato turns to the subject of the World Soul. The initial discussion of the four elements only argues that (i) there four and no more than four and that (ii) the body of the world as a whole and its parts are made up of these four. No account is given of what these elements are and how they combine into larger bodies. This account begins at 53c4. Before turning to this account I wish to call attention to Plato's argument for (i). There are four elements rather than two because fire and earth must be held together. The best bond, Plato says, is a proportion where "the middle (term) between any two of them is such that what the first (term) is to it, it is to the last, and conversely, what the last is to the middle, the middle is to the first" (32a1–3).⁴ The world is a body and bodies are solids, therefore world is a solid and solids "are always joined together with two middle (terms)" (b3). Therefore earth and fire must be joined together by two middle terms. "So the god put water and air between fire and earth and made them, in so far as it was possible, to have the same proportion to each other, such that what fire is to air, air is to water, and what air is to water, water is to earth" (b5–7). Plato does not explain how, for instance, air can stand in a proportion to water. What can this mean? I shall not attempt to say.⁵ The point I wish to make is the following. The kind of bond Plato seems to establish between the elements is one that is appropriate for numbers – "numbers" primarily in the sense of lengths of lines in geometrical figures. The elements are then somehow put together in a way that approximates this bond. So the unity of the elements that compose the body of the whole lies in their approximation of a proportion that "numbers" have to one another. Even at this beginning stage of Plato's treatment of the elements the basic facts about them are facts about intelligible objects that the elements to some extent reproduce. As odd as this claim may seem to us, Plato makes it without bothering to explain to us how this could really be the case; he seems to take it for granted that it is the case. Were we to ask him why we should accept this, he would probably refer us to the beginning of Timaeus' discourse where he distinguishes between the two Kinds: "In my opinion, then, the following must first be distinguished: what is that which always is and does not have coming-to-be, and what is always coming

3 Note that in GC B 2 Aristotle takes a similar starting point for his argument for the four primary qualities "Since we are seeking the principles of perceptible body, that is of tangible (body), and tangible (body) is that of which the perception is touch, it is clear that not all the oppositions constitute the forms and principles of body, but only those connected with touch" (329b6–11).

4 On this proportion see Cornford 1937, 45–52.

5 For a recent attempt to make sense of this see Black 2000.

to be and never is?" (27d5–28a1) The dependent relation that the second Kind has to the first entails, for Plato, that we have to look to intelligible truths, such as "numeric" proportions, to understand the sensibles. I shall return to this point below.

Plato begins the exposition of his theory of the elements as follows:

Now first of all it is evident to anyone that fire, earth, water, and air are bodies; and every kind of body also has depth. Depth, in turn, must necessarily be enclosed by plane surface ($\tauὴν ἐπίπεδον φύσιν$). Now the rectilinear kind ($\phiύσιν$) of base ($\betaάσεως$) of a plane surface is composed of triangles. (53c4–8)

All bodies have some degree of "depth" or thickness; they are three-dimensional.⁶ The notion of "depth" ($\tauὸ βάθος$) is a property of body in general; one might call it three-dimensionality. Three-dimensionality in body is finite and therefore "enclosed." Finite three-dimensionality is enclosed by "plane surface."⁷ "Plane surface," again, is an abstract notion of what is two-dimensional. In order to enclose something that is three-dimensionally finite plane surface must itself be finite. The intersection of a finite, enclosing plane surface and a finite, enclosing plane surface is a "base." The intersection of plane surfaces will be rectilinear ($\circ\varrho\thetaή$); conversely, if the "base" is rectilinear, the surface will be plane. With this in mind, Plato refers to a finite face of an enclosed three-dimensional body as a "rectilinear base." Each of these "bases," he says, is composed of triangles; Plato here refers to an accepted geometrical truth that all rectilinear plane figures can be resolved into triangles, but triangles cannot be resolved into any other plane figure.⁸ Triangles, then, are the components of the two-dimensional faces of solids.

Plato argues that because the elements are bodies, they must have the structure that body in general has. This structure, he thinks, can be explained by reference to geometrical truths. The construction, however, of body from triangles poses a problem. Plato's account of body reduces it to the components, namely triangles, of finite two-dimensional plane surfaces that form a finite three-dimensional solid by their intersections. But because triangles are not three-dimensional, they are not bodies; therefore the ultimate components of body are not body at all.⁹ To this argument Philoponus responded indignantly that "Plato was not so lacking

6 Cf. 32a7–b2. "If, then, the body of the Whole should have come to be a plane surface ($\epsilon\piίπεδον$), having no depth, . . . but in fact it is proper that it be solid ($\sigmaτερεοειδή$)."

7 Cf. Taylor 1928, 362. $\epsilon\piίπεδον$ is an adjective meaning "flat" or "plane." Cornford 1937, 212 n. 1, demands "surface" because there are geometrical solids that have curved surfaces as well as flat ones.

8 Cf. Aristotle, "we perceive that the triangle is last" (*EN* Z 8 1142a28). Also Philoponus "Every polygon has its genesis out of triangles . . . and every polygon is divided into triangles" (*On de An.*, 256.12–15).

9 Aristotle (*Cael.* Γ 7. 306a23–26) makes this argument. Simplicius (*On Cael.*, 648.13–14) rephrases the point as "to make the generation of body (to be the generation) of abstract body ($\tauοῦ \alpha\plως οώματος$) but not of a particular body."

in knowledge of geometry ($\alpha\gamma\epsilon\omega\mu\epsilon\tau\eta\tau\sigma$)¹⁰ as to think that bodies can be resolved into planes, but he spoke of physical planes, that is bodily ones, which also have depth" (*On GC* 210.12–14).¹¹ Plato, Philoponus replies, was not talking about abstract geometrical entities but physical entities. This raises the question: how should we interpret Plato's geometrical exposition? Does his use of geometry make the claim that, for example, an elemental fire body *is*, in some sense, a pyramid, or does it make the weaker claim that elemental bodies are somehow structured like the regular solid figures and that the geometrical analysis provides only the blueprints, as it were, for the structure of the elements?

Perhaps no direct answer to this question is provided in the *Timaeus*, but in the *Republic* Plato explicitly states his view of the correspondence that physical things have to the theoretical entities studied in sciences such as astronomy and harmonics. Socrates finds fault with contemporary astronomers who study observed data and make calculations on the basis of such data. The observed stars, though they "provide the most exact (data) of all visible things" ($\alpha\chi\rho\beta\epsilon\sigma\tau\alpha\tau\alpha\tau\omega\tau\omega\tau\epsilon\chi\epsilon\iota\nu$), "fall far short of the true (facts), (namely) the real speed and the real slowness ($\tau\ddot{o}\ \tilde{\delta}v\ \tau\acute{a}x\dot{o}s\ kai\ \dot{\eta}\ o\acute{u}sa\ \beta\varphi\alpha\delta\dot{u}t\eta\tau\zeta$) in the true number and in all the true figures [or, aspects ($\sigma\chi\eta\mu\alpha\sigma\iota$)] in which they are moved . . . which are grasped by the mind by reasoning but not by sight" (529d1–5). Therefore, Socrates continues, the observed stars "should be used as examples¹² for studying those (true facts), just as someone would do if he happened to find diagrams expertly drawn by Daidalus . . . For anyone trained in geometry, seeing them, would think them beautifully done but would also think it absurd to investigate them closely with the intention of finding in them the truth about equals or doubles or some other ratio" (529d7–530a1). Plato suggests that the observed motion of a star has no greater correspondence to its real motion than two equal triangles drawn by Daidalus have to the real equality of two geometrical figures. That is, the observed motion and the drawn triangles at best represent the real motion and the geometrical entity and should be used merely as "examples" for study, which is done by working through "problems" (530b6). Socrates goes on to criticize the Pythagoreans (530d8) who study audible harmonies, remaining content with their empirical findings rather than studying the system of true "numbers" or numerical ratios that these findings suggest.¹³

10 An allusion, no doubt, to the reported inscription over the gate of the Academy: $\alpha\gamma\epsilon\omega\mu\epsilon\tau\eta\tau\sigma$ οὐδεὶς εἰσίτω.

11 According to Simplicius, Proclus also argued that "natural plane figures are not depthless" (*On Cael.* 648.19–20).

12 παραδειγμασι. The sense here cannot be "paradigm" as the word is used in the *Tim.* Plato is evidently referring to sketches used by instructors.

13 Barker 1978 argues that "the program which Plato sets his students is to show, without the benefit of sense perception or any appeal to the music which our ears recognize, how it is that the numbers associated with the notes of the scale form *in their own mathematical right* [italics of the

It is, of course, unsurprising that Plato claims a lack of perfect correspondence between physical things and the "forms" they manifest. The *Timaeus* states that the Demiurge shaped the primordial chaos "with forms and numbers" (53b5), and yet things only manifest "examples" of these forms and numbers. The elemental bodies, like the motions of the stars we observe and the harmonies we hear, correspond only in some essential respect to their theoretical prototypes. The theoretical prototype of each one is the geometrical structure that Plato assigns it. Theoretical (or "real") fire, Plato says, is a pyramid whose surfaces are made up of half-equilateral triangles. But what of a physical, perceptible fire body, is it a pyramid whose two-dimensional surfaces are made up of half-equilateral triangles? Early in the *Timaeus* Plato distinguishes between an account that one may give of what is "stable, steady, and evident with the aid of the intellect" (29b6) and an account that one may give of what "comes to be" and is an image of the former; Plato calls this latter account a "probable" or "likely account" (*εἰκὼς λόγος* or *μὸθος* [29d2 and *passim*]). These accounts must resemble what they are an account of; therefore the former must be "stable, unfailing, and as much as possible incontrovertible and irrefutable" (29b7–8) but the latter "probable" (c2). The reason that the latter account is only "probable" is that the things of which it is an account are ever changing physical things which correspond imperfectly and inexactly to the theoretical entities that serve as a basis of the account. Though only "probable," the account is an account, a *logos*, because it is based on immutable truths or realities such as those discovered by geometry and also on the "necessity" (cf. 53d5) that certain things follow from others as, for example, it follows that if it is fitting that the world be the best possible, "according to the probable account" the world must be a living thing, having soul and intellect (30b5–8).

The meaning of the expression *εἰκὼς λόγος* has been much discussed in the literature. Taylor 1928, 19, for instance, thinks that it implies that "Plato was not likely to feel himself responsible for the details of any of his speaker's theories. All that is required by his own principles is that they shall be more or less 'like' the truth, i. e., that they shall be the best approximations to it which could be expected from a geometer-biologist of the fifth century" (cf. 59 as well). Crombie 1963, 2.198–99, argues that the purpose of the *Timaeus* is to show that it is perfectly possible that the world is rationally ordered; therefore "Plato is not com-

author] a coherent system" since these numbers "form a system which the sounds can at best only crudely reflect" (341). The Pythagoreans, Barker argues, "failed to go on to convert their mathematical representations of sound into a scheme of purely numerical relations, and to seek the principle of its unity . . . For Plato the system of numbers is something merely *suggested* to the mind by the physical relations of heard sounds and their means of production: music as heard is patterned, but only very imperfectly, on the orderings of numbers" (342). Böhme 1975, 51, notes that "Platons Wissenschaftsbegriff lässt sich nur verstehen, wenn man daran denkt, dass die Gegenstände der Wissenschaft Ideen sind." The "true" science of harmonics deals with theoretical entities or "forms."

mitted to the details of Timaeus' conjectures (and indeed he makes Timaeus reiterate that they are no more than that)." Following Cornford 1964 (= 1927), 330, Vlastos 1965 [= 1939], 382–83 argues that since the "element of falsity lies, not in the mode of expression, but in the object described," the "verisimilitude" to which Plato "relegates all of what we hopefully call 'science' . . . is not fiction" and "the presumption must be that every element in the *Timaeus* is probable and none fanciful." The interpretation of $\varepsilonιχώς λόγος$ as a "verisimilar account or explanation" is treated at length by Ashbaugh 1988. She distinguishes a "true account" that treats only Forms and a "verisimilar account" that treats the images of the Forms in physical things, so "mirroring the true account" (21). Thus "verisimilar accounts explain phenomena by subsuming the characterizations of the sensible qualities into geometrical, arithmetical, or harmonic regularities" (14). It seems to me that the Vlastos-Ashbaugh interpretation of $\varepsilonιχώς λόγος$ is generally right. Surely Plato did not consider this dialogue a diverting bit of fiction. Plato's statement that the account of the world given in the *Timaeus* is "probable" does not imply that *it* falls short of being "true" but the *things* of which it is the account somehow fall short of corresponding to – or, being "true" of – it.¹⁴

I shall now answer the question I posed above, namely, is a perceptible fire body a pyramid whose two-dimensional surfaces are made up of half-equilateral triangles? The "probable account" given by Plato in the *Timaeus* does not claim that a physical fire body is composed of two-dimensional surfaces in *precisely* the same sense that an abstract geometrical pyramid is, but only that its structure somehow "exemplifies" that of a pyramid.

To recapitulate, I argue that Plato's geometrical analysis of the structure of the elemental bodies – like the "true" astronomy and "true" harmonics of the *Republic* – is a strong claim only about the "real" structure of the "real" or theoretical elements and only a weaker claim about the actual structure of physical elemental bodies. In Plato's view these bodies do approximate in some essential respect the structure of the theoretical elements, but only in a way appropriate to physical things.

If physical elemental bodies only approximate theoretical elements in some essential respect, what is this respect and what does the theory explain about physical bodies? I will attempt to answer these questions only with regard to the claim that the elemental bodies are composed of triangles. An examination of this claim will show how Plato's elemental theory is to be applied to physical bodies; it will also help to indicate what sort of thing Plato thought the Receptacle to be.

14 Cf. *Rep.* 473a1–3, where Socrates asks with respect to the possibility of founding his state, "Can something be done just as it is stated, or is it not in the nature (of things) that doing ($\piράξιν$) seizes upon the truth less than an account ($\lambdaεξεως$), even if some might not think so?"

The Triangles

According to Plato's theory the plane surfaces of the theoretical elemental bodies are composed of two kinds of triangles (53c8–d2): the surfaces of fire, air, and water are composed of half-equilateral triangles, while the surfaces of earth are composed of right-angled isosceles triangles. When fire, air, or water is broken down, its constituent triangles can be rearranged into one of the other two elemental bodies,¹⁵ but as earth's triangles are unique to earth, they can only be reconstituted as earth. On the subject of earth Plato first suggests, in the argument for the Receptacle, that earth changes into the other elements. Later, however, he retracts this claim without explanation (54b5–c3). Is this because, in his observation, earth behaves differently from the other elements, or is there a theoretical reason, as for example, it would be appropriate that the cube, one of the regular solids, be represented by one of the elements, or did Plato have some other reason? Aristotle calls the exclusion of earth from the cycle of transformation the "first absurdity" of Plato's account of the elements (*Cael.* Γ 7. 306a1) because it contradicts the testimony of experience. He argues further that this would make earth the only real element because it alone would be indestructible (a18–20). Plato clearly says that earth is destructible, in as much as it breaks down into its component triangles. Simplicius (*On Cael.* 644.21–645.11), with the aid of Alexander of Aphrodisias, plausibly argues that Aristotle's point is rather that because earth's triangles remain uniquely earth's and cannot be used in the formation of the other elemental bodies, earth in dissolution still remains earth in a sense that fire does not remain fire; therefore it is, in a sense, indestructible. Alexander, it should be noted, argues further that according to Plato's account the triangles are the "matter" ($\bar{\nu}\lambda\eta$) of the elemental bodies (cf. Aristotle, *GC* B 1. 329a22–24). They should be so considered, he argues, because matter is that into which all the triangles should resolve and that which receives the shape of all the triangles equally; the matter of the elemental bodies must be available to all equally. But this is not the case because earth's triangles remain exclusively earth's. Therefore the lowest level thing out of which all things come to be is the triangles. (*On Puzzles and Solutions* 2.13 [58]). I shall return to this point below.

The construction of the elemental bodies out of triangles provides the basis for Plato's account of the cycle of change that we perceive the elements to undergo. He describes the process as follows:

15 "For all (three kinds) are (composed) of one (sort of triangle). When the larger (bodies) are broken up ($\lambda\upsilon\theta\epsilon\nu\tau\omega\acute{v}$), many small (bodies) will be composed out of them, taking on the shapes that are appropriate to them; and again, when many small (bodies) are dispersed into ($\delta\alpha\sigma\pi\alpha\phi\gamma\chi\tau\alpha$) triangles, the total number of the single mass can produce a single large (body) of another kind" (54c6–d2). Because of the number of its faces, water (an icosahedron) is "larger" than air (an octahedron) and air is "larger" than fire (a pyramid).

When earth encounters fire and is dissolved by its sharpness, it would be carried about – either, when it is dissolved, it would be found in the same fire or in a mass of air or water – until such a time as its parts (*μέρη*) meet up again somewhere and, being fitted together with one another, they come to be earth, for they can never pass into another kind *(of body)*.¹⁶ But when water is divided into parts (*μερισθέν*) by fire, or else by air, it is possible that one body of fire and two *(bodies)* of air come into being when *(the parts)* combine. . . . And when air is overpowered and cut into pieces (*χερματισθέντος*), from two whole *(bodies of air)* and one half *(body of air)* a single whole kind (*είδος ἐν ὅλον*), *(namely,*) of water will be constituted. (56d1–e7)

The “parts” of an elemental body are its constituent triangles. The triangles are “fitted together” (*συναρμοσθένται*) to form an elemental body. Plato does not explain his notion of the mechanism whereby the triangles are “fitted together” to form only the shapes of the four regular solids. One might speculate that the mechanism may be the regular pressure exerted by the revolution of the All combined with the fact that the constituents are triangles and, as such, can fit together only in certain regular ways. So compression drives them together while their shapes determine how they combine, but I am not sure this could actually work. Plato does, however, discuss how the elemental bodies are “cut up” into triangles, but his theory raises a number of difficulties. The spectacle of triangular particles of an elemental body of earth being carried about, particles which apparently are neither earth nor anything else, seems rather unsatisfying.¹⁷ Further, Plato’s theory of division into parts and reconstitution results in a loss of volume when the latter is calculated,¹⁸ although this will be troublesome only if one assumes that the elemental bodies are actually full of something that can be lost or is a source of weight.¹⁹ It is clear, nevertheless, that the coming-to-be and passing away of the elemental bodies are conceived of as processes of association and disassociation of triangles that are preserved intact, or so it seems, throughout the process.

Are the triangles, then, indestructible, are they “atoms,” or can they also be broken up? In his discussion of the growth of an organism Plato says:

When the constitution (*σύστασις*) of the entire living thing is young, the triangles of the *(four)* kinds *(of elements)* which the constitution substance has are still new, *(being fresh)* as it were from the oak frame, and the interlocking bond (*σύγχλεισιν*)

16 Perhaps Plato is thinking about the suspension of earth in muddy water.

17 Aristotle (*Cael* Γ 7, 305b32–35) argues that Plato’s elemental bodies should be indivisible “atoms” (see also Robin 1908, 261–62) because (absurdly in his view) a “part” of fire will not be fire, as it will not have the shape of a pyramid. He also regards as absurd the notion that after elemental transformation some triangles will remain in “suspension” (*παρατρόησις* [306a21]).

18 See esp. Bruins 1951. To escape this Bruins suggests a supplemental theory of minimal cutting, whereby only those cuts are made in a larger body that will produce the smaller bodies. This would seem to require that the larger bodies have joints at particular places and these only will be severed.

19 Cf. Pohle 1971, 316ff.

of the <triangles> with one another is strong As the triangles – be they from food and drink – which come in upon the constitution from outside and are encompassed in it are older and weaker than the triangles of the <constitution>, the <constitution> prevails with <its> new <triangles>, cutting up <what comes in>, and the living thing is made large, taking its nourishment from many like <particles>. (81b5–c6)

But decay of an organism comes when the triangles are no longer “new” but are “older and weaker” than what comes into to the organism from outside:

But when the root ($\rho\acute{\imath}\zeta\alpha$) of the triangles becomes loose ($\chi\alpha\lambda\acute{\imath}\bar{\imath}$) by reason of the struggle in many conflicts against many <elemental bodies> over a long time, then <the triangles> can no longer cut up into a likeness to themselves the incoming <particles> of the nourishment, but on the contrary they are easily divided up by those <triangles> which come in from outside. At this point every living thing decays, being overpowered in this <process>, and the condition is called old age. The end is when the bonds of the triangles fitted together round about the marrow no longer resist, they break painfully, and release in turn the bonds of the soul which, being freed in a natural manner, has flown off pleasurable. (81c6–e1)

Plato mentions two ultimate factors that determine whether an organism will continue to grow or will decay: the newness of its triangles and the strength of the bond that holds the triangles together. Which factor is primary? Does the “root become loose” because the triangles are old, or are the triangles said to be “old” when the bond weakens? Perhaps Plato has in mind the analogy of teeth which “cut” as long as they are securely rooted in the mouth. This would imply, on the one hand, that decay comes to pass without the triangles becoming “worn,” but on the other hand it could also imply that the triangles become both loose and worn with age. An organism, Plato says, has a term of existence. This is determined at the beginning of its existence by the fact that its triangles only hold together for a certain period of time: “Immediately at the beginning of each <thing> the triangles hold together having a force ($\delta\acute{u}v\alpha\mu\tau\acute{u}v$), being able to suffice until a certain time, beyond which nothing can prolong its life” (89c1–3). This seems to imply that the primary cause of death is the loosing of the bonds between the triangles, not the disintegration of the triangles. But furthermore, if in fact the triangles are perishable, Plato has not discussed how their number can be replenished (so preserving the imperishability of the Whole) or into what they might perish. Because a triangle is the simplest plane figure, the only regular figure into which it could be broken up would be smaller triangles for which the same problem would arise. This seems to require that the triangles are indestructible. Plato does, indeed, make the triangles, whatever they are, to be the basic constituents of the elemental bodies, but this is because he will not take his analysis further. He writes:

Let us lay down this first principle ($\acute{a}\varphi\chi\eta\tau\acute{u}v$) of fire and the other <elemental> bodies as an assumption [i. e., their composition out of triangles], proceeding in accord with

the probable account along with necessity; but as for the yet more basic first principles of these (triangles), the god alone knows them and whomever he befriends (53d4–7).

Plato does not claim that the triangles are in fact the ultimate “principles” of the things; rather he suggests that there may be “still more basic” ones that are beyond his grasp. He treats the triangles as though they were bricks used in building a wall. To discuss the structure of the wall he thinks it is adequate to explain the arrangement and bonding of the bricks; he does not need to explain about the clay from which the bricks were made and how they were fired. Plato never claims or argues that the triangles are or need be indestructible; he simply starts his “probable account” from them. It seems unlikely, therefore, that Plato thought that the triangles must necessarily possess the property of indestructibility.

Connected with the question of the triangles’ indestructibility is the question of whether the triangles are all equally well formed, equally fulfilling the work of being triangles. The answer to this is certainly, No. Plato says that Intelligence chooses the best triangles for the four elemental bodies that are going to make up the marrow:

The god separated apart, each from their own kind, as many of the primary triangles which, being untwisted and smooth, were, because of their exactness, especially able to produce fire, water, air and earth, and mingling them in proportion to one another, (so) devising a universal seed ground (*πανσπερμιαν*) for the entire mortal race, he finished off the making of the marrow out of them. (73b5–c3)

This passage suggests rather straightforwardly that there are better and worse shaped triangles among which the god can choose. For the marrow the god chooses only the triangles that are “untwisted (or, undistorted) and smooth” because only such triangles have “exactness.” Presumably the exactness lies in the precision of the angles and the straightness of the sides that enable these triangles to combine tightly to produce the needed elemental bodies. The point of selecting the best triangles is to produce elemental bodies that are as finely shaped as possible. But the selection process strongly suggests that there are poorly shaped triangles, ones that are, for example, twisted and rough. Perhaps one could argue that a number of triangles might form a large, composite “super-triangle” and that such super-triangles could be “twisted” on account of the combination process. Were this the case, the basic triangles could be “untwisted and smooth” and there still be “twisted” triangles for the god to avoid. This argument has several problems beyond the fact that Plato does not discuss the production of super-triangles. First, in the passage above, the god selects the best triangles from among the (lit.) “first of the triangles.” Surely, if there were super-triangles, these would not be among the “first.” Second, why would triangles that are (*ex hypothesi*) perfect in shape combine to form a misshapen super-triangle? Plato does not inform us here of a cause that would compel well-formed bits to combine

badly. Third, the triangles are components, and nothing more than components, of the elemental bodies. Therefore super-triangles would necessarily be components of super-elemental bodies, that is, of elemental bodies that are greater in size than regular elements. Plato makes no mention of such super-elements.²⁰ Further, granted that there are super-triangles, there would be no limit to their size and thus no limit to the size of the elemental bodies they form, however roughly. But Plato says that all elemental bodies are too small to perceive. I think, then, that we should accept that Plato allowed for the existence of triangles that are somehow roughly formed.

The apparent fact that there are triangles that lack "exactness" is not insignificant. It tells us plainly that Plato conceives of the triangles as physical things that are subject to the imperfections to which all physical things are subject. It also seems to tell us that a triangle does not have to have "exactness" in order to form elemental bodies, although bodies so formed would, presumably, be more unstable. This suggests that part of what it is to be a "triangle" is to be so formed that it can be used for element building, that is, it can be used to construct the four solids.

What, then, are the triangles? Many interpretations have been proposed, among them: (1) the triangles are just two-dimensional mathematical figures, taking Plato at what seems to be his word; (2) (a) the triangles are immaterial but not mathematical entities, or (b) the triangles are material and yet are mathematical entities; (3) the triangles are two-dimensional delimitations of space; (4) the triangles are locations in the space continuum; (5) the triangles are two-dimensional limits of body; (6) the triangles have a certain thickness and are therefore minimally three-dimensional physical bodies; (7) the triangles are physical bodies of some sort; (8) the triangles are not that out of which the elemental bodies are formed but are meant to express the *laws* according to which they are formed; (9) the triangles are not meant to provide an explanation of physical reality at all and are therefore purely theoretical entities; (10) the theory of the triangles arises from a conceptual error.

(1) the triangles are just two-dimensional mathematical figures. This is the view of Aristotle. Aristotle commonly refers to Plato's triangles as "planes" (*ἐπιπέδα*), saying that Plato "composes and resolves every body into planes and out of planes" (*Cael.* Γ 1. 299a1–2).²¹ From the premise that Plato's triangles are

20 At 57d1–2 Plato mentions that there are many sizes of triangles, "smaller and larger," that combine into elemental bodies that should also be, presumably, "smaller and larger." This helps to account for the many species of water, earth, etc. The fact that there are smaller and larger triangles does not suggest that a larger triangle that is part of a larger elemental body is a *composite* of smaller triangles. If this were what Plato meant, then he should think that there is only one basic size of triangle which composes either elemental bodies or larger triangles that compose larger elemental bodies. But he says that there are many sizes of triangles.

21 Cf. *Cael.* B 4. 286b26–33, GC A 2 315b30–32, B 1 329a23–24. It bears noting that Aristotle expresses a parallel view about the Pythagoreans when he claims that they held that all things are

indeed "planes" Aristotle can make a number of strong arguments against the theory. Among them are (a) that since Plato's triangles are geometrical planes, they must be resolvable into lines, and lines into points (299a6–10),²² and because points have no weight (299a32) and occupy no place (*Phys.* Δ 5. 212b24–25), "either there is no magnitude at all or it can be reduced to nothing" (*Cael.* Γ 1. 300a7–8); and (b) that there is no good reason why the planes formed by the triangles should meet along a straight line, edgewise, for they could also lie on top of each other, thus not forming a three-dimensional solid (299b25–32). On the view of (1) Plato's theory is a blunder of the most elementary kind.

(2) (a) the triangles are immaterial but not mathematical entities, or (b) the triangles are material and yet are mathematical entities. Oddly enough, these opposite views have a certain similarity. (2a) is proposed by Schultz 1966. With the example of magnetic fields in mind (103), he proposes that "Plato's elemental figures, though purely spatial and immaterial, are not conceived as 'pure mathematical figures'" (102). These figures are, according to (2a): "localized and moving individual and therefore 'physical' objects which, however, lack the essential properties of sensible substances. For this reason they have a peculiar ontological middle-status that does not fit into the range of the classical categories" (111). (2a) suggests that Plato somehow transcended the physical and metaphysical notions of his own time and proposed a theory that has some correspondence to theories of modern physics. (2b) is proposed by Wood 1968. Wood argues that the triangles have a mediating role, or middle-status, between sensibles and the Forms, and for this reason are conceived of as physical "mathematicals" (Wood makes reference to the Divided Line in the *Rep.* [436]). The triangles in this interpretation are "geometrical atoms" that have many of the attributes of the Forms, e. g., indestructibility and intelligibility, and differ from them "only in being many in number, moving in place, and dependent ontologically" (438–39); they have "necessarily slight variations from the ideal" (439) because they are material. The key claim of (2b) is that while the triangles are material, they are also mathematical entities, in other words, they somehow merge in themselves the "two worlds," the intelligible and the physical.

(3) the triangles are two-dimensional delimitations of space. This view is widely held; its foremost and earliest protagonist is Zeller. Zeller 1922 (801–4) argues that because Plato

does not compose these [elemental] bodies out of bodily atoms but out of planes, and in the last analysis out of triangles of a certain sort, and because he resolves them again

made of numbers (e. g., *Met.* A 6. 987b28, M 8. 1083b17–19). This very likely misrepresents the Pythagorean claim. See Huffman 1993, 59–61; Huffman 1988, 5–14; Zhmud' 1989.

²² Aristotle reports that Plato in fact did not resolve lines into points but into "indivisible lines," which Aristotle dismisses as being just a different expression for the same thing as a point (299a13–14; see *Met.* A 9. 992a21–24).

into triangles when the elements change into one another, he clearly shows that what lies at the base of the elements is not a material that fills up space but space itself,²³ out of which these determinate bodies are to be formed in such a manner that definite parts of space are mathematically delimited and comprehended in particular figures. Plato thinks that the ultimate particles of body are not indivisible bodies but indivisible planes. These produce the smallest bodies by combining into definite shapes; these bodies, then, are not simply delimited by planes, but are composed of planes.

The triangles are a “mathematical limitation of empty space” (736). This claim is developed by Siebeck 1888 and others²⁴ into a spatial atomism. It is difficult to see how bodies consisting of mathematically defined two and three-dimensional space could be in any sense substantial. (3) takes it precisely to be Plato’s view that the phenomenal world of Becoming is real only insofar as it partakes of the Forms and that what lies at the base of the phenomenal world is the Empty or negation (see, e. g., Zeller 1922, 734). Thanks to its construction from space, the phenomenal world is merely phenomenal, and space is that “on which” (cf. Schneider 1884, 28, and more recently Mohr 1980, 148²⁵) the phenomena “appear.” In that (3), at least in Zeller’s version of it, requires that the particles of space delimited by the triangles be “definite,” (3) serves as the basis of (4).

I shall give several responses to (3). Cornford 1937, 205, rejects the notion that the elemental bodies so constructed are “empty boxes – nothing but geometrical planes enclosing vacancy.” He argues that in such a case “they would then be inanimate and like Democritus’ atoms, except that they would not be solidly packed with impenetrable substance. Indeed, the whole of space would be empty – a void partitioned by geometrical planes.” Instead Cornford argues that “the particles are filled with those changes or powers which are sensible qualities and are penetrated and animated by soul.” The elemental bodies constructed of planes are not empty but filled with “powers.” Cornford’s suggestion is, then, that the elements are, one might say, boxes full of powers, which soul penetrates in the way, perhaps, that the force of gravity penetrates the vast regions of outer space. This suggestion, I think, is based on a conception of force or power unknown to Plato. Crombie 1963 takes a less radical position when he argues that “Plato’s fundamental notion is that of configurations in space” (2.223). He says that one cannot analyze Plato’s meaning further than this: “On the one hand the triangles are simply triangles, the molecules [i. e., the elemental bodies] simply configurations of space. If we are tempted to ask: ‘Triangles of what?’ we must resist the

23 On this notion of “space” see above, ch. 1, section II.1.

24 See above, ch. 1, n. 40.

25 Mohr (1985) arguing against Cornford (1937, 205), claims that the triangles, or “primary particles,” are “geometric plane figures enclosing vacant space” (114); “as *images* they are on the same footing for Plato as any other phenomena. That is, they exist by appearing in and clinging to the receptacle” (113).

question. They are simply triangles" (2.222). Crombie, however, does not say what he means by "space"; in any case he thinks that although Plato's account is inherently inadequate, we should "suspend disbelief" at least to appreciate what he is trying to say.

(4) the triangles are locations in the continuum of space. This view follows from the assumption that the Receptacle is space in the sense of place throughout the cosmos. (4) has been proposed indirectly by Penner 1987 (221–24), and Silverman 1992. Space bounded by planes composed of triangles produces "place" (*τόπος*) and three-dimensional bodies consisting of bounded space.²⁶ As the elementary constituents of place the triangles are locations in the continuum. (4) sees the triangles as the basic constituents of the "particularity" of sensible particulars inasmuch as particulars occupy a unique space (-time) location.

(5) the triangles are two-dimensional limits of body. Claghorn 1954, 31, suggests that "the planes are primarily explanatory, and under no circumstance do they constitute reality by themselves." He goes on to suggest that the planes "mark the bounds of a body, and delimit an area within the Receptacle where something has come to be" (31). Apparently by "explanatory" Claghorn means that the planes explain or define a body's limits. (5) claims that Plato did not propose the triangles as the ultimate constituents of bodies but as the constituents of their surfaces.

(6) the triangles have a certain thickness and are therefore three-dimensional physical bodies, at least minimally. Martin (1841, 2.241) notices that the "triangles" in the Gold Analogy (50b2) must have thickness because they are formed from gold. He takes this notion and suggests that the triangles actually have depth:

Si chacune des figures planes qu'il décrit est supposée avoir quelque épaisseur, comme les triangles d'or dont il a parlé plus haut, ou comme des feuilles minces d'un métal quelconque, taillées suivant les figures qu'il décrit, et si l'on suppose ces feuilles réunies de manière à présenter l'apparence extérieure des quatre corps solides dont il parle, mais à laisser l'intérieur complètement vide, toutes les transformations indiquées s'expliquent parfaitement.

Martin realizes, however, that emptiness of the bodies poses a serious objection to this interpretation.

(7) the triangles are physical bodies of some sort. (7) claims that the triangles are "physical" triangles and therefore have depth and are bodies. Alexander of Aphrodisias – according to Simplicius (*On Cael.* 646) – argued against the Platonists that if an elemental earth body dissolved into its constituent two-dimensional triangles and did not recombine immediately into another earth body, then the place

26 "The geometrical Forms allow Plato to create bodies with depth out of bounded space and thus transform space into place, which, in turn, provides a home for the form-copies" (Silverman 1992, 110)

occupied by the former earth body would be void, since two-dimensional planes could not fill a place, but Plato says that there is no void. To this Simplicius replies that, “If (the Platonists) said the triangles were mathematical, the objection would be valid, but if they say that the triangles are physical (φυσικά) and have depth, it is plain that when they disperse they take up a place, and that all together they take up a place equal to that occupied by the body they composed” (21–24). This reply seems to imply that the triangles, being “physical,” did not just compose the surface of the body, but the entire volume. Simplicius does not say clearly whether the “Platonists” actually said that the triangles are “physical,” but as both Proclus and Philoponus refer to the argument (see above, pp. 165–66), one may probably assume that it belongs to Middle Platonist commentators. If according to (7) the triangles compose the entire volume of the elemental bodies, it must be explained in what sense these components are triangles.

(8) the triangles are not that out of which the elemental bodies are formed but are meant to express the *laws* according to which they are formed. This interpretation is proposed by Archer-Hind 1888. Rejecting Martin’s suggestion (see (6)), Archer-Hind thinks the geometrical solids and the planes are not physical things at all:

We must not look upon the geometrical solids so much as stuff which is put up into parcels, now of one shape, now of another; but as the expression of the geometrical law which rules the constitution of matter: they are definite forms under which space by the law of nature appears in various circumstances. The planes are real planes; but they do not compose the solid; they merely express the law of its formation. . . . The ἐπίπεδα then are, I believe, neither to be regarded with Aristotle as planes out of which we are expected to construct solids, nor with Martin as thin solids; but as the law of the structure of matter. (203–4)

(8) claims that Plato’s analysis of body into triangles only states the laws according to which “space appears in various circumstances” but not the components of body. By “laws” Archer-Hind apparently means the ways in which the composition of body regularly occurs.²⁷

(9) the triangles are not meant to provide an explanation of physical reality at all and are therefore purely theoretical entities. Gadamer 1985 (= 1974) thinks that Plato’s elemental theory is just a theory, an εἰχώς λόγος (262); whether or not physical reality corresponds with this theory is not at issue. “Timaeus is not interested how the real elements arise out of the geometrical solids The ‘transition’ to the reality of visible nature as such is not described” (260). “The question is simply not addressed how these mathematical truths [i. e., the construction of the regular solids from triangles] might correspond with nature, that is, with the elements and the different bodies constructed from them” (262). Like

27 Cf. Drummond 1982, 64.

(8), (9) renders the puzzle over how triangles might compose real bodies moot; in their view Plato made no such claim.

(10) the theory of the triangles arises from a conceptual error. This is the view of Sachs 1917. Sachs argues that Plato "made the mathematical figures depend upon the sensible appearance of his models" (218). Plato, according to Sachs, imagined the geometrical solids to be actually empty inside, that is, he took the physical notion of empty space and attributed it to mathematical figures. Accordingly Plato does not build physical bodies out of mathematical planes – as is often thought – but makes mathematical figures to be bodies in the sensible world (216).

The text of the *Timaeus* quite clearly claims that the triangles, whatever they are, are the most elementary constituents of bodies. In his discussion of compounds Plato seems to say that the triangles wear down and states that they are "carried about" (56d2) when separated. Furthermore, Plato speaks of "untwisted and smooth" (*ἀστραβῆ καὶ λεῖα* [73b6]) triangles used for marrow; this seems to imply that there are also twisted and rough triangles. These are properties belonging to bodies. Any interpretation of the triangles that makes them wholly immaterial cannot be right. This excludes (1), (2a), (8), and (9). (8), however, does make an important point which will be discussed shortly. (2b) must claim that the triangles are indestructible and further, that they are perfectly intelligible if it can maintain that the triangles are "mathematical." But Plato nowhere claims that they are indestructible and states, furthermore, that they are subject to imperfections (e. g., "warping"). This raises the question, Just how "mathematical" are they? The point made by (2b), namely, that the triangles make it possible for disorderly material to resemble Forms, is sound, but this function does not require the strong claim of (2b) that the triangles enjoy an ontological middle-status dissimilar to the status of any of the members of the three Kinds. (3) requires (a) that Plato had a modern notion of space as bare extension and (b) that Plato refers to space when he speaks of *χώρα* as a third kind of thing. I have argued against (a) in Chapter One, p. 34, and will present further arguments in Chapter Five, pp. 207–12; I have argued against (b) in Chapter Three, pp. 138–41. (4) requires the claim that *χώρα* is conceived to be a spatial continuum that is divided up into locations; I have argued against this interpretation in Chapter Three, pp. 129–32. (5) must be excluded because it views the triangles to be merely the constituents of the surface of body, although Plato nowhere makes such a claim. (6) makes the elemental bodies empty, but Plato states that there is no empty space or void in the world; Comford also argues effectively against this view, though his own suggestion, that Plato's elemental bodies are filled with "powers," is not very plausible. Against (10) one can exclaim with Philoponus that Plato could not have been so ἀγεωμέτρητος (see above). (7), which may be Middle Platonic, claims that the triangles are "physical" and therefore bodies of some sort. (7) fails however – at least in the version which we have of it – to explain how such physical

triangles compose the volume of an elemental body, that is, how they manage to compose a full body, not an empty one (as [6]). Still, given what Plato says about the triangles, (7) seems to be a plausible interpretation as far as it goes.

Against (7) one might argue (A) that if the triangles are bodies of some sort, they should be in Plato's view three-dimensional (53c4–5). If they are three-dimensional, why does Plato call them "triangles"? Further the following argument (B) can be made: if they are regular – which one should grant – they must have the shape of one of the regular five solids. Say the shape is that of a pyramid, but since the pyramid is the shape of fire, then all the elemental bodies must consist of fire, but this is impossible.

The reply to (A) lies in Plato's claim that he is presenting a "probable account" in the sense discussed above. In fact, as Plato begins his account of the elemental bodies he reminds us that he is proceeding "in accord with the probable account along with necessity" (53d5–6); that he does so is significant. The significance is, I think, that Plato is alerting us that we must take care not to misunderstand what he is about to say. Unfortunately, the controversy over the "triangles" (I now put quotation marks around triangles to indicate the special sort of entity that Plato postulates) shows that little heed has been given to this warning. Above I argued that Plato's statement that the account of the world is "probable" does not imply that *it* falls short of being true but the *things* of which it is the account somehow fall short of corresponding to – or, being true of – it. The mere "probability" is caused by this short-fall. Following this interpretation I argued further that Plato's geometrical analysis of the structure of the elemental bodies – like the "true" astronomy and "true" harmonics of the *Republic* – is a strong claim only about the "real" structure of the "real" or theoretical elements and only a weaker claim about the actual structure of physical elemental bodies, since they only approximate the "real" structure. If so, the "probable account" tells us what is true of theoretical entities, such as cubes, pyramids, and triangles, but with respect to physical entities, such as the bodies of earth and fire, it is true only in a qualified or weaker sense. Before applying this interpretation directly to the problem of the "triangles" I shall discuss the text where they are introduced.

At 53d4–e6, right after introducing the "triangles," Plato says:

We set down as an assumption that (*ὑποτίθεμεθα*) this [i. e., that the two triangles compose the rectilinear base of the plane surfaces] is the principle (*ἀρχήν*) of fire and the other bodies as we proceed in accord with the probable account along with necessity²⁸. Principles that are still more basic than these are known to god and to whomever he befriends. It is necessary now to state what kind are the best (lit. most beautiful) four bodies that can come to be, <bodies which are> unlike each other but able, once they have broken up, to come to be from one another. When we have achieved this,

28 μετ' ἀνάγκης. Zeyl 2000, 44, translates this "in terms of Necessity," understanding ἀνάγκη as a reference to the second stage of the *Timaeus*. This may well be right.

we have the truth about the coming-to-be of earth and fire and their proportionate intermediates [i. e., water and air]. For we shall not concede to anyone that there are better (lit. more beautiful) visible bodies than these, each one being of a single kind.

To this point Plato has claimed (i) that the elements are obviously bodies (53c4–5); (ii) that bodies are three-dimensional solids (c5–6); (iii) that the three-dimensional is enclosed by plane surface (c6–7); (iv) that plane surface is composed of triangles (c7–8); and (v) that the triangles are of two kinds (c8–d4). The truths (in so far as they are truths) about bodies that Plato intends to expound to us are truths about three-dimensional solid figures, conceived of as theoretical or intelligible entities. Following this form of argument, Plato now proceeds to lay down triangular composition as a “principle” of the elemental bodies, allowing, however, that there may be still more basic principles²⁹ (d4–7). To assume this, he says, is to “proceed in accord with the probable account along with necessity.” Starting from this principle, and assuming the results of the earlier argument (31b4–32c4) that there are four elements, Plato gives two conditions that the four bodies he is to propose must meet: (a) they must be the “best” that can come to be; and (b) they must be able, by their structure, to account for elemental change (d8–e2), that is, they must be able to “come to be from one another.” If these conditions are met, he says, “we have the truth about the coming-to-be of earth” and the rest (e3–4). Why the “truth,” a very strong claim indeed?

Timaeus established condition (a) at the very beginning of his account of the world when he argued that it would be “unlawful even to say” that the world was not beautiful (*χαλός*) and its maker not good; this fact entails, he says, that the paradigm referred to in the world’s construction is an everlasting one (29a2–4), i. e., an intelligible one. Plato is rather uncharacteristically resolute about the regular solids so formed being the best, or most beautiful, possible: “For we shall not concede to anyone that there are better (lit. more beautiful) visible bodies than these” (e4–6). The fact that bodies whose structure approximates that of the regular solids are the “best” possible bodies ensures for Plato that it is these bodies that are the elemental building blocks of all other bodies in the world, because if they were not the best, the world would not be the best (most beautiful), and that would be “unlawful even to say.” His account, which claims that the elements are these, must then be the “truth.”

Condition (b) refers to an alleged empirical fact. The “probable account” holds that the explanation of empirical facts lies in truths about theoretical or intelligible entities, the “paradigms.” Condition (a) requires that the elements are constructed after the paradigm of the regular solids. It must be the case, then, that the basic facts about the elements have their explanation in their being as similar

²⁹ As one might expect, there has been no want of persons ready to suggest these more basic principles. The most common suggestion for further principles is the line and the point.

to the regular solids as possible. We know that the plane surfaces of a pyramid, for instance, can be broken down into half-equilateral, scalene, right-angled triangles which can be recombined, along with other triangles of the same kind, to form the surfaces of an octahedron. It follows, Plato thinks, that this is the explanation of how fire comes to be air. So Plato claims that the way in which the regular solids can be produced from one another *is* the way that the elemental bodies are produced from another. The account, therefore, in as much as it satisfies (a) and (b), is "the truth about the coming-to-be" of the elements.

We may now return to objection (A): Why does Plato call the ultimate components "triangles" if they are bodily constituents and therefore three-dimensional? Let us take the example of the theoretical prototype of elemental earth, a cube. A cube is formed of six surfaces that meet at right angles and can be broken down into right-angled isosceles triangles. The "probable account" holds that the cube is the prototype of elemental earth; in the language of the *Republic* one might say that what is true of the cube will be strictly true of the "true" elemental earth. The "probable account" also (*not* as interpretation [9] above) makes a weaker claim about the structure of physical elemental earth, namely, that its structure corresponds to or approximates in some important respects the structure of theoretical (or "true") earth. According to the "probable account," then, it will be the case that just as right-angled isosceles triangles fit regularly together to form the surfaces of a mathematical cube, so the simplest basic components of a physical earth body fit regularly together to form a body that somehow resembles a cube. Just as the triangles compose the entire mathematical cube,³⁰ so the basic components of the physical cube or earth body compose the entire body. Because this body must be "full," not empty, these components are three-dimensional, "physical" simples that account for the entire volume of the earth cube. Here the point made by interpretation (8) is useful. Plato's analysis of bodies into triangles indicates the way in which (or "laws" by which) the elemental bodies are constructed: they follow the pattern of the "true" or theoretical elements. On the interpretation I am suggesting here, Plato uses the term "triangle" to refer to the basic constituents of the elemental bodies, constituents which combine in the way, or pattern, that mathematical triangles combine to form mathematical solids. The term "triangle" therefore does not imply that the basic constituents of all bodies are two-dimensional planes, a claim that Plato was not so ἀγεωμέτρητος as to make.

But triangles simply are two-dimensional, so why would Plato call these basic constituents "triangles"? The answer to the question is to be found, I think, in Plato's claim at 52a5 and elsewhere (e. g., *Phd.* 78e2, c.f. 103b7–c1, *Prm.* 133d3; c.f. *Met.* A 6. 987b10) that things that come to be (members of the second Kind) "have the same name as" (ὄμονυμον) the things that are (i. e., members of the

³⁰ As Sachs 1917 points out (see above), a mathematical cube does not have empty space inside it; it is only its surfaces. Therefore the triangles compose the entirety of the cube.

first Kind). What Plato means by this is not entirely clear, largely because it is not entirely clear what he means by the term "homonymous." Some of the difficulty arises from Aristotle's use of "homonymy," which, in the very first lines of the *Categories* he defines as having a name in common but not the "definition ($\lambdaόγος$) of being that corresponds to the name" (1a1–2). It is at least clear that when Plato claims that a sensible "has the same name as" (is homonymous with) a Form he refers to the fact, in his view, that sensibles partake of Forms or that Forms are the paradigms of sensibles. He can therefore, in the *Republic*, speak of *three* beds: a drawing of a bed, a physical bed, and the bed that serves as a paradigm for a maker of physical beds (596e10–597b7). Because Plato counts all three as beds, allowing for degrees of being, the three have more than "only the name in common"; in fact, they have "the definition of being that corresponds to the name" in common, at least to some degree (I shall return below to the example of the beds). Therefore the beds cannot be, in Aristotle's usage, a case of "homonymy," but are, instead, a case of "synonymy" (*Cat.* 1a6–7).³¹ But because Plato's use of homonymy in this instance includes the notion of degrees of being, a notion that Aristotle would not accept as it stands, Plato does not mean by "homonymous" precisely what Aristotle means by "synonymous."³² So what does Plato mean by "homonymous" ("having the same name")? This is to ask about what is entailed by the claim that sensibles "have the same name" as their Form paradigms. Here I can only sketch out an answer to this rather deep question in service of my argument about the nature of the "triangles."

Plato thought long and hard about names. In the *Cratylus* Socrates suggests, against a conventionalist view of names, that a successful name would express "things in the way they naturally are" (387c1–2). This being the case, the argument continues, a person who gives names should be supervised by a dialectician (390d5–7), because a dialectician is an expert at giving an account of what things are. So a name should be "a tool for teaching, that is, for distinguishing ($\deltaιαχριτικόν$) being" (388b13–c1), i. e., for distinguishing what the thing is that it names. The *Cratylus* goes on to show that a name cannot do this by combining sounds and syllables, and it is left unclear how a successful name could perform its function. Whatever Plato's solution might be to this apparent problem of reference, the claim remains that the names we use for things ought to indicate somehow what things are. For Plato what things are is to be discovered in the Forms. Therefore names should indicate what things are by somehow referring us to the

31 See Alexander of Aphrodisias' discussion in *On Met.* 51.11–19.

32 The difficulty of interpreting Plato's usage of homonymy under the influence of Aristotle's usage is most evident in Aristotle's discussion of a Platonic argument for Forms of relatives, such as "the equal," in a fragment of his *On the Forms* preserved by Alexander of Aphrodisias (*On Met.* 82.11–83.17). On this argument see Cherniss 1944, 178–79 n. 102, 229–33 and n. 137; Owen's reply in Owen 1957; and a very helpful analysis in Fine 1993, 142–59.

Forms in which these things participate or to the Forms as the paradigms of these things. This suggests that there can be a correct as well as an incorrect application of names, for an incorrect name would not so refer us. It therefore matters what names we use. I shall call this need to use the correct name Point (1).

Point (2) is the following. Let us take the example of the three beds from the *Republic*. Plato claims, in very odd language, that there is something, a Form (*τὸ εἶδος*), that goes under the name “the that which is (the) bed” (*οἱ ἔστι χλίνη*; 597a2). There is also a bed and a drawn bed. By virtue of what are these all correctly named beds? Plato’s answer would be the “form” that they all share, even though it is not immediately clear what “form” signifies. The two-dimensional drawing may be said to have the visible form of the physical bed, but the physical bed does not have the visible form of the “that which is (the) bed.” So Plato should mean by “form” something like “what it is to be a bed.” If this is the sense of “form,” then, in as much as it is given that all are beds, the three do possess this. Still, Plato does not think that they are, to the same (ontological) degree, beds. Therefore things that “have the same name” may participate in a single form in rather different ways, that is, while being beds each one manifests “what it is to be a bed” in a way appropriate to the kind of thing it is: Form, physical object, picture. It follows that the “same name” (e. g., bed) that is applied to each, given that it is applied correctly (Point (1)), refers us to the single form in a way that is appropriate to the kind of thing it is. This is Point (2).

Now I wish to apply Points (1) and (2) to the subject of the “triangles.” My claim is that the constituent bits of the elemental bodies are “triangles” homonymously (in a Platonic sense), that is, that these bits “have the same name” as the triangles that compose the faces of the regular geometrical solids. Under Point (2) I argued that for Plato quite different kinds of things can “have the same name” provided that this name refers to a single form. Point (1) claims that as long as the name refers successfully it is correctly applied. In the present case, we have two quite different kinds of entities: a mathematical entity and a bit of physical body. The single form that they both share, the form by virtue of which they have the “same name,” is “what it is to be the ultimate constituent of a regular solid.” In so far as both things possess this form, both properly have the same name. But what name?

At this point we need to refer to guiding principles of the “probable account.” The “probable account” claims that truths about physical objects are to be discovered in the intelligible entities they “imitate.” The physical objects under discussion are the four elemental bodies. Plato wants to give an account of their structure that will explain how they change into one another. To discover this account he looks to truths about intelligible entities. To determine what entities are relevant Plato reasons that the elements are in the first instance bodies. All body is three-dimensional. Therefore the relevant intelligible entities must be three-dimensional. The science that treats such entities is geometry. Geometry

tells us that the regular solids can be divided up into their surfaces which, in turn, can be divided up into triangles as ultimate constituents. Therefore the “probable account” directs us to claim that the ultimate constituents are triangles that combine to form regular solids. The correct name, then, of the ultimate constituents is “triangle” (Point (1)). But, in accord with Point (2), the name refers us to “what it is to be the ultimate constituent of a regular solid” in ways that are appropriate to the kind of thing under consideration. It follows that a constituent triangle of a regular geometric solid will be the two-dimensional figure we all know, but the constituent triangle of an elemental body will be a three-dimensional bit of body. In both cases the name “triangle” is correctly given.

It should be evident that the “probable account” gives rise to claims that we may regard as counter-intuitive.³³ This is the danger to which Plato is alerting us when he begins to discuss the construction of the elemental bodies from “triangles.” He knows that we will resist calling the basic constituents of bodies “triangles.” We may be accustomed to give the name of objects of our experience to intelligible entities, e. g., “justice,” but we resist giving a name that we think refers to an intelligible entity to a physical object. So Plato reminds us that he is calling the ultimate constituents “triangles” within the framework of his “probable account.” But beginning with Aristotle, whether or not he knew better, Plato’s warning has gone largely unheeded: to say that three-dimensional bodies are composed of two-dimensional plane surfaces is absurd. Plato knew this as well.

Objection (B) argues that if the “physical” triangles are regular three-dimensional bodies, they will already be one of the elements and not constituent parts of them. Plato might reply that his analysis of elemental change has shown that all elemental bodies are composite bodies (they are not even like “syllables” [48b8–c1]), but the “triangles” are, as Plato presents them, simple bodies. Therefore even if a “physical” triangle or particle of an elemental body were to resemble one of the regular solids, it would not be an elemental body. This is not a strong argument against (B) because Plato makes shape the chief distinguishing property of his elemental bodies and it is difficult to see why a composite, say, pyramid would be all that different from a simple one.³⁴ To this unresolved difficulty we might add Aristotle’s complaint that Plato does not reduce planes to lines and lines to points, but stops at triangles; he chose not undertake a further analysis of the particles he calls “triangles.” We may find this decision to stop at

33 We might reflect here that the claims of contemporary particle physics and cosmology are no less so and originate from abstract speculations that do not appear so very different from Plato’s, if one removes from consideration facts now established but unknown to Plato.

34 One might argue, however, that, in the case of much larger bodies, a pyramidal shape clearly does not require that they have all the properties of fire, therefore not all pyramids are fire bodies. If not all pyramids are fire bodies, the pyramidal particles need not be productive of the properties that we associate with fire.

the “triangles” rather arbitrary. After all, our physics refuses to stop searching for basic particles and, as a result, has discovered much about the basic structure and genesis of the universe. And there are further objections to Plato’s account. For example, he seems to make the ultimate constituents (the “triangles”) subject to infinite division because every right-angled triangle can be divided into smaller and smaller right-angled triangles.³⁵ To these objections I suspect Plato would respond that his account is sufficient in that it satisfies conditions (a) and (b), mentioned above (pp. 180–81), and it does state “*the truth* about the coming-to-be of earth and fire and their proportionate intermediates” (53e4–5) in the sense explained above. Why need he speculate further? This attitude seems to explain why Plato is quite untroubled by the possibility that someone else may come up with an account of the principle of the elements that satisfies conditions (a) and (b) more completely: “If anyone is able to state a ⟨principle⟩, having picked this one out ⟨instead⟩, that is better [lit. more beautiful] for the constitution of the ⟨elements⟩, he will prevail not as an enemy but as a friend” (54a4–5). Plato’s account is sufficient, but if someone finds a “better one” (*χάλλιον*), so much the better.

We would very likely find Plato’s view that he need not speculate further unsatisfactory. We might say, if Plato is serious about giving an account of the world, he must draw out the consequences of his claims and put his “plausible account” under the rigorous trial of opposing argument to which he subjects so many other views in his works. I think that Plato is serious about giving an account of the world, but that he is serious about it for different reasons than we, or perhaps even Aristotle, may be. After the medieval period science would reject the methodology of the “probable account” out of hand because it rests on a hypothesis that no amount of empirical investigation could demonstrate, namely that the physical world “imitates” intelligible truths, such as the composition of a regular solid figure, and it does so because this would be for the best. Our science, as a methodological principle, separates the question of what is for the best from the investigation of what is the case. But Plato simply assumes that what is for the best *is* what is the case, at least in so far as physical reality can achieve what is best. This assumption enables Plato to pass over in silence the difficulties raised above. It does so because an account that explains how the world is the best and most beautiful possible has stated what is the case and is sufficient. If difficulties remain, they can be resolved, or not, by others whose intentions may be different than Plato’s. This approach may seem to us rather block-headed, but I suppose our approach would seem to Plato equally block-headed.

35 For further difficulties see Zeyl 2000, lxvi–lxvii

I have argued that, following (7), the “triangles” are the particles or regularly shaped building blocks out of which the elemental bodies are constructed. As there is no empty space in Plato’s world, we should assume that Plato thought that these particles consisted of, are full of, something. Although Plato declines to discuss what this something might be, it might seem reasonable to suppose that this most basic something and the Receptacle have much in common. It has, in fact, been widely held that whatever one takes the Receptacle and the “triangles” to be, the latter consist of the former, even though Plato says explicitly that the Receptacle is “that in which” the elemental bodies come to be. What, then, is the relation of the “triangles” to the Receptacle?

The Triangles and the Receptacle

To answer the question just posed, there seem to be the following options: (I) the Receptacle is that which the “triangles” divide up. This is to say that the Receptacle consists of the “triangles.” (II) the Receptacle is a strictly separable “that in which” for the “triangles.” Place would be such a thing. This suggests that whatever the “triangles” may be, they come to be (or, are) somehow “in” the Receptacle but are in no sense “of” the Receptacle. (III) the Receptacle is a “that out of which” for the “triangles” and also a “that in which.” The Receptacle is what Intelligence forms into “triangular” shapes. The “triangles” are, one might say, filled with the Receptacle. So the Receptacle is a “that out of which” for the “triangles” with respect to the fact that they are physical, concrete entities. But the Receptacle is a “that in which” for the triangular form that it “receives.”

On (I). Expressing a view often repeated in antiquity, Diogenes Laertius interprets Plato to hold that “unformed and unlimited matter ($\bar{\nu}\lambda\eta$)” “is converted into the four elements, fire, water, air, and earth, out of which the world itself and that which is in it is produced” (3.69, 70 [1.149]).³⁶ Diogenes thinks that Plato’s Receptacle is “unformed and unlimited matter” that is somehow “converted” into the four elements. But since the elements consist of the “triangles,” the Receptacle, in Diogenes’ view, must have been “converted” into the “triangles,” presumably by being divided up into them. Perhaps a more direct source for this interpretation is Aristotle. Aristotle apparently interpreted Plato in the same way, for he objects that “it is impossible that the Nurse, that is the first matter, be the plane surfaces [i. e., the triangles]” (GC B 1. 329a23–24). Also in *Cael.* Δ 5. 312b21–22, arguing for the claim that different kinds of body have different (proximate) matter, Aristotle refers to the atomists and Plato as holding that there is a single matter: “If there were a single matter for all (bodies), such as the void or the full or magnitude or the triangles . . .”. Aristotle understands Plato to claim

36 Cf. the view of Alexander of Aphrodisias, mentioned above, p. 169.

that the “single matter” is “the triangles.” See also Alexander’s argument, cited above (p. 169). The proponents of interpretation (3) above, which see Plato as proposing a kind of spatial atomism, also are committed to option (I) because they think that the Receptacle is space and that the “triangles” are just portions of delimited space.

According to (I) the Receptacle, as a factor in the world as it is now (i. e., not in the pre-cosmos), just is the “triangles” into which it is divided up. This is an attractive interpretation. It is attractive because it explains the Receptacle to be a material (or spatial) substrate that consists of minute, triangularly-shaped bits, which we might call “atoms”; such an account is, at least, somewhat intelligible and considerably diminishes the mystery surrounding the Receptacle. Unfortunately (I) cannot be right as it stands. This is not how Plato conceives of the Receptacle.

We know that Plato did not so conceive of the Receptacle from the following statement: “We should not say that the mother and receptacle of the visible and at any rate sensible *⟨thing⟩* that has come to be *⟨is⟩* earth or air or fire or water or whatever is composed of them *or that out of which* (*ἐξ ὧν*) *they have come to be*” (51a4–6). That “out of which” the elements have came to be is the “triangles.” Therefore the Receptacle cannot be the “triangles.” Plato’s immediate reason that we should not claim that the Receptacle is the “triangles” lies in the necessity that to serve the coming-to-be of the elements “*⟨the Receptacle⟩* should naturally be without (*ἐκτός*) any of *⟨their⟩ forms*” (51a3). This reason, however, is not sufficient to exclude the “triangles,” because the “triangles” satisfy the condition of not having the forms of the elemental bodies. So Plato’s exclusion of the “triangles” must be based on a different necessity. This necessity is made explicit in the discussion of the Unguent and Wax Analogies that preceded this claim. There Plato says, “that which is to receive in itself all the kinds *⟨of the elemental bodies⟩* must also be without (*ἐκτός*) any of *⟨their⟩ forms*, just as in the case of unguents” (50e4–6) in order accurately to receive the “imprint” of the forms of the elemental bodies. When an unguent is prepared, Plato says, the base liquid is made as “odorless as possible”; the unguent makers “by craft contrive this first” (e6–7). Likewise the craftsmen who take impressions of objects in some soft substance, such as wax, “begin by making the *⟨surface⟩* as level and smooth as possible” (e10–51a1). Plato claims, on the analogy of these processes, that if the Receptacle is to “receive” the geometrical forms or shapes of the elemental bodies in the way suitable to Intelligence, it *must* be perfectly formless or shapeless. I have argued above that Plato conceived the “triangles” to be physical, therefore three-dimensional, shaped bits. It is evident that any collection of such objects could not be perfectly formless in the required sense.

The Unguent and Wax Analogies suggest, rather subtly, a cosmogonical claim. In the formation of the physical world the Receptacle was found in the following three successive states: (1) a chaotic precosmic state in which it shook with “disordered motion” caused by the properties or “forces” of randomly formed bodies.

(2) a preliminary state in which Intelligence makes the Receptacle perfectly formless and shapeless, presumably by eliminating all the effects of precosmic randomness.³⁷ (3a) the present state in which the Receptacle, now perfectly formless, "receives," or is "imprinted" by, the forms of the "triangles." This might mean that it is divided up into the "triangles," but without the implication that it now consists of, or has become, the "triangles." (3b) in the present state the Receptacle, by providing the "triangles," also "receives" the coming-to-be of the elemental bodies: it is the "receptacle" of their coming-to-be. In this state the Receptacle, being affected by the properties of the elements, shakes with an ordered motion (the "Nurse"). (3c) as being the "receiver" of elemental coming-to-be the Receptacle also can be said to "receive" the coming-to-be of bodies formed from combinations of the elements. Plato holds that the Receptacle is one and same entity throughout all three states, that is, whether it receives random and crude forms, no form at all, or exquisite and beautiful forms. The Receptacle, therefore, is conceived to be something that is, by virtue of what it is, entirely distinct from form. This fact helps explain why Plato continues: "by saying *<that>* it *<is>* a sort of invisible and formless kind *<of thing>*, which receives all, yet which partakes in some very obscure way of the intelligible and is extremely difficult to grasp, we shall not speak falsely" (51a7–b2). For Plato, what is perfectly distinct from form cannot be intelligible, except in so far as one says that it is "what is distinct from form." In sum, the Receptacle cannot be the "triangles" or consist of the "triangles." Therefore (I) cannot be right.

On (II). I have already argued that the Receptacle is not a "that in which" in the sense of place. It is true that the "triangles" must be in some place, but, as I have argued in Chapter Three and will discuss again in Chapter Five, Plato did not identify place and the Receptacle. If Plato is thinking of something else that would be separable in the sense demanded by (II), I do not know what that might be.

On (III). I think there are good reasons why options (I) and (II) cannot work. (III), however, has much to recommend it. (III) holds that the relation of the Receptacle to the "triangles" is one of being both a "that out of which" and a "that in which," but in different ways. It is "that out of which" the physical nature (I intend this expression to be vague) of the "triangles" is derived, and it is "that in which" the form of triangularity – that is, a triangle as being the ultimate constituent of a geometric solid – is physically realized. The separation entailed in being a "that in which" applies to the form, not to the "triangle" as a whole

37 I think, but I will not argue here, that the construction of an ordered world out of a disordered chaos has a deliberate parallel in *Republic*'s construction of a state by philosophers who have "the paradigm in their souls" (484c7–9). Socrates there makes the point that the philosophers must be able to "take up the state and the behavior of men like a writing slate" and that the slate either must be "clean" or "clear" (*καθαρόν*) when they receive it or they themselves must clean it (501a2–7). This stage of cleaning the slate would correspond to stage (2).

(which would be the case if the Receptacle were place [= II]). The non-separation entailed in being a "that out of which" applies to the physical nature of the "triangles" which derives from and is not separate from the Receptacle. As should be evident from the discussion of (I), Plato carefully maintains a distinction between the "triangles" and the Receptacle such that we cannot say that the Receptacle just is the sum of the "triangles" or is divided up into the "triangles." This suggests that the Receptacle should not be conceived of as a "that out of which" for the "triangles" but as a "that out of which" for their physicality.

To illustrate (III) I shall return to the Wax and Unguent Analogies. According to the Wax Analogy the substance (wax, or some such thing) is made as smooth as possible. Being in this state it can receive the impress of a form (or shape) exactly. In as much as the thing impressed on the wax, i. e., the form, remains distinct from the wax, only leaving its impress, the wax is a "that in which" for the form. Likewise, the Receptacle is a "that in which" for the form of a triangle as being the ultimate constituent of a geometric solid. As for the impress itself, not the form that has been impressed, it is formed wax. The formed wax corresponds to a "triangle," while the Receptacle is the "that out of which" for the wax of the formed wax, that is, the impress. Plato, of course, does not adduce the Wax Analogy to help us understand the relation of the Receptacle to the "triangles" but to understand its relation to the elements. I shall take this fact into account in the Unguent Analogy. The base liquid in the Unguent Analogy is rendered as odorless as possible. Because most of us do not use unguents nowadays, I shall speak of perfume instead. Let us suppose that the odorless liquid base of perfume is some kind of alcohol and that in order to produce perfume a number of alterations are made to this base by the addition of "essences." Let us suppose further that the addition of these essences affects the odorless quality of the base but not its chemical structure. So to produce a perfume that has fragrance *Y* one must begin with an odorless alcohol base, add essences *a*, *b*, *c*, each of which give an odor to the base, and mix them to create fragrance *Y*. The odorless base corresponds to the Receptacle, the mixture of essences to a composition of "triangles," and the perfume having fragrance *Y* to an element, for instance air. The odorless base is a "that in which" for each of the essences that cause it to have an odor but do not change it chemically. The base is also a "that in which" for the mixture of essences. Plato might say that the base "receives" these odors. Analogously the Receptacle is a "that in which" both for the form of a triangle and for the octahedron (air) composed of triangles. The alcohol base is also a "that out of which" – clearly not for the odors, but for the fluid we know perfume to be. This fluid "receives" the odors caused by the addition of essences *a*, *b*, and *c*; it also "receives" fragrance *Y*. Likewise the Receptacle is a "that out of which" not for the form of a triangle or an octahedron, but for the bit of material (or, physical nature) that has "received" these forms.

Unlike (I) and (II), nothing in what Plato says about the Receptacle and the “triangles” seems to make (III) an impossible interpretation. To show this I shall return briefly to the various claims that Plato has made about the Receptacle. Plato begins his discussion of the Receptacle with the problem posed by elemental change. The elements compose all bodies, and bodies are what we usually point to and say “this” (*τοῦτο*). But in fact, Plato says that the elements are changing into one another so quickly that one can never accurately say “this” of any of them and, it would seem to follow, of anything composed of them. But this cannot be right, so there must be some referent of “this” that remains stable. The referent, Plato says, is the Receptacle (50a1–2). I shall now restate this account in terms of what Plato tells us about the composition of the elemental bodies out of “triangles.” Plato explains elemental change by the breaking down of an elemental body into its “triangular” components and the recombining of these same components, together with others from elsewhere if needed, into an elemental body of a different kind (see 56c8 ff). At a micro-level this apparently happens quickly and constantly with the result that we might imagine ourselves witnessing an ongoing exchange of countless “triangles” combining momentarily into various elemental bodies that then break down. Granting this scenario, what has sufficient stability such that it can be a referent of “this”? Not the elemental bodies, and not the “triangles,” because the “triangles” are in constant motion, either in a process of combining or of breaking apart from one another. Plato has been careful to distinguish the “triangles” from the Receptacle, contrary to the claim of (I), and so there remains something, in his view, that is neither the elemental bodies nor the “triangles.” Plato states that the referent of “this” must be “stable” (*μόνιμα* [49e3]); how, then, is the Receptacle stable? Although the Receptacle is, as I shall shortly discuss, affected by the forms it “receives,” Plato states repeatedly that it does not undergo change with respect to what it is: it remains separate or distinct from any form (see, e. g., 50c1–2). This entails that it does not undergo coming-to-be (as it should not, since it is not a member of the second Kind) and therefore is “stable.” The Gold Analogy makes the same point.

Plato introduces the Impress-holder (*ἐμπαγεῖον*) Analogy with the claim: “one must always call it the same, for it absolutely never gives up its own power: for it both always receives all the <bodies> and has never on any occasion in any fashion taken on any form similar to any of the entering <bodies>” (50b5–c2). The Receptacle (i) never changes as to what it is, (ii) “receives” the elemental bodies, but (iii) does not take on their form. These claims, of course, are closely connected. By virtue of the fact that the Receptacle remains distinct, or separate, from the (coming-to-be of the) formed bodies it “receives” (ii), which is to say that it does not adopt for its own their form (iii), it does not change as it performs its cosmic function (i). This claim is then illustrated by the Impress-holder Analogy. Like an impress-holder it is “moved and shaped” by what it “receives” and

it "appears" on account of the formed bodies it "receives" to be changing at different times (50c2–4), but even so it remains unchanged. It might reasonably be asked, why is it that being "moved and shaped" is not a case of being changed? Or more simply, what does "moved and shaped" mean? This can be answered in terms of the "triangles" and the structure of the elements. On the one hand, because the Receptacle is a "that in which" for both the forms of the "triangles" and the regular solids, it remains distinct and perfectly unchanged by the processes that take place in it. But, on the other hand, in so far as the Receptacle is a "that out of which" for the physical nature of the "triangles," what that physical nature undergoes can be attributed to the Receptacle. That physical nature, as Plato conceives it, undergoes "being shaped," or "taking the impress" of the forms constructed out of the "triangles," but it does not undergo change. Plato's statement that the Receptacle "receives" the (coming-to-be of the) elemental bodies can be restated as follows: the "triangles" come together into the shape of one of the regular solids; that is, the Receptacle's "reception" of an elemental body is the assembly of the "triangles." Strictly speaking, the Receptacle "receives" not the elemental bodies but their coming-to-be; so when Plato speaks of the elemental bodies being "received" this is an abbreviated way of saying that the coming-to-be of these bodies is "received." But if so, would it not be more accurate to say that the sum of the "triangles" "receives" the coming-to-be of the elemental bodies? In a sense, yes, because what is built into a form is the "triangles." But for Plato the "triangles" are too unstable (in sense of undergoing constant interchange) to be the ultimate subject of "receives." Plato's account of the physical world recognizes both change and fundamental stability, sameness (see, besides many passages in the *Tim.*, *Sph.* 249c10–d4); his world is not Heraclitean. The Receptacle is meant to account for one aspect of this stability. Furthermore, Plato is attempting to state the ultimate subject of elemental coming-to-be. The sum of the "triangles" would not be such a subject.

I pass over as sufficiently treated the Unguent and Wax Analogies and the claim that the Receptacle is not "that out of which" the elements are formed. Plato says that in as much as the Receptacle "receives the images (or, imitations [$\mu\imath\mu\eta\mu\alpha\tau\alpha$])" of the elements, fire, for instance, "appears as a inflamed part" of the Receptacle (51b4–6). This can be restated in terms of the "triangles" in the following way. The "images" are the physical solids produced by the combining of the "triangles." They are merely "images" because they are not geometric solids formed of plane surfaces composed of triangles, but physical bodies composed of "triangles." I have just discussed what "reception" means. Plato now states that "triangles" formed into a pyramid appear as "an inflamed part" of the Receptacle. This tells us that many of the properties that we ascribe to fire and the other elements have the Receptacle as their ultimate subject: it is the Receptacle, i. e., a part of it, which is fiery. Plato, in his discussion of these properties, attempts to explain how these properties are derived from the primary property

of shape, e. g., fire is hot and burns things because it has a pointed shape (see 61e1–62a5). So these properties are attributed to the Receptacle by virtue of the shape that a part of the Receptacle has (in the sense discussed above) through the arrangement of a number of “triangles.” This is a “part” of the Receptacle because a determinate number of “triangles” are involved and these “triangles” contain, it seems, a determinate portion of what the Receptacle is. In this way the Receptacle as a whole and in its “parts” “appears” to become (though it in fact does not become, properly speaking) fiery, moist, and so on. This is the sense, I take it, of the claim made at 50c3–4 that the Receptacle “appears on account of them (i. e., the “received” elemental bodies) to be changing at different times,” and also the claim at 51a1–3 that the Receptacle repeatedly receives the resemblances ($\alpha\varphiομοιώματα$) of all the elements “over its whole extent.”

In the Nurse Analogy Plato reminds us that the Receptacle “appears to view to be very diverse, being moistened and inflamed” as it “receives the forms” of the elemental bodies and “undergoes whatever other qualities ($\piάθη$) accompany the *elements*” (52d6–e1). Being affected in this way (as being the ultimate subject of these properties), the Receptacle is “filled with unbalanced forces” that cause it to shake (e2–4). The shaking, as I have discussed in Chapter Three, separates the elemental bodies into distinct regions. In what sense does the Receptacle shake? I suggested in Chapter Three (pp. 151–52) that the shaking would be evident to us, Plato may think, if we viewed the world as merely composed of ultimate constituents. These ultimate constituents are the individual elemental bodies and the “triangles.” If this is right, what is shaking are the “triangles” and the elemental bodies as they come to be. I will now argue for this interpretation in another way that will also serve to clarify my claim. The Receptacle is, properly speaking, affected by one thing: form. Properly speaking, it “receives” form and only form. As I mentioned above, when it is said to “receive” the bodies of the elements, this is an abbreviated way of saying that it “receives” the coming-to-be of these bodies, which is to say that the form of one of the regular solids is reproduced by a combination of “triangles.” The elemental bodies have qualities or properties derived from their shapes or structures. By virtue of this fact Plato says that a part of the Receptacle “appears to be . . . moistened or inflamed.” In fact, the Receptacle has only “received” the form of an icosahedron or a pyramid. So although a part of the Receptacle “appears” to have the power or force to burn things, this power belongs, properly speaking, to the element, and only in a secondary sense to the Receptacle, which “receives” only form. Likewise the other qualities ($\piάθη$). Now Plato carefully and consistently points out that “to receive” must not be understood as “adopt for its own” or “come to be.” So, strictly speaking, even the forms that the Receptacle “receives” cannot be predicated of the Receptacle, and *a fortiori*, the qualities that derive from the reception of these forms. This follows from the Receptacle being a “that in which.” As being a “that in which” the Receptacle maintains separation from the processes of coming-to-be and the qualities that attend these

processes. By this line of argument Plato may seem to have misled us when he seems to say that the Receptacle is the subject of various qualities ($\piάθη$). One of the qualities ($\piάθη$) that the Receptacle is said to undergo, or be the subject of, is being moved, caused to shake. It follows from what I have just argued that this, too, cannot be predicated of the Receptacle. But Plato does so emphatically. This raises the question: is there a sense in which these qualities can be rightly predicated of the Receptacle? The answer lies in the fact that the Receptacle is also a "that out of which" for the "triangles" and the elemental bodies formed of them. As a "that out of which" it does not enjoy separation from what comes to be. These qualities, and motion (shaking), can be predicated of the Receptacle as not being separate or distinct from the "triangles" and the elements composed of them. The Receptacle is not separate from the "triangles" (and so from the elements) in as much as it is, in the case of each "triangle," what has the "triangular" shape. So motion, shaking, is correctly said of the Receptacle in respect to its not being separate from the "triangles."

But one may object here: if the Receptacle is not separate from the "triangles," it is in fact shaped, and so on, and it can no longer be a "that in which"; either it is separate or it is not. This is a version of Aristotle's objection: Plato is confused because he says the same thing is both a "that in which" and a "that out of which" but this is impossible. The answer to the objection posed is that both are true of the same thing, the Receptacle, but in different ways. One can distinguish between (a) what must be true of the Receptacle as being the best possible receiver of the forms of the "triangles" and the elemental bodies and (b) what must be true of the Receptacle as being what actually is receiving these forms. For example, with respect to (a) Plato argues that the Receptacle is a third kind of thing, distinct both from being and from what comes to be; it is by its very nature perfectly formless; it is perfectly unchanged by the processes that occur in it; it is not subject in any sense to destruction; it is a precondition for the existence of any physical entity. With respect to (b) Plato argues that the Receptacle's function is to "receive" the coming-to-be of the elemental bodies by physically reproducing an "image" of an intelligible form; it is the stable factor in the physical world that can properly be referred to by "this"; it is like the base liquid of an unguent; the elemental bodies are (or, "appear" to be) its inflamed, moistened, etc., parts; it shakes because of the effect of the unequal forces with which it is "filled"; it is a necessary factor in the world. The claims made under (a) understand the Receptacle to be something that is distinct and separate from what it "receives"; in this sense it is a "that in which." The claims made under (b) understand the Receptacle to be integral to the physical world; in this sense it is a "that out of which" for what has a "triangular" shape. So Plato, under (a) and (b), claims the Receptacle is both a "that in which" and a "that out of which," but that it is so in different ways. Does this remove from Plato the charge of confusion? What sort of entity does Plato conceive the Receptacle to be?

With respect to the first question I shall very briefly respond to Aristotle's charge of confusion. Is it justified? I have argued that the Receptacle is in fact a "that in which" and a "that out of which," but in different ways. Granting that this is the case, Plato does not offer us a confused account. But Aristotle would very likely not accept this reply. Aristotle allows, on the one hand, that the Receptacle is a "that out of which" for the elemental bodies. But, on the other hand, he denies that the Receptacle can be a "that in which." He does so because he rejects the Platonic view that the forms are separate. If forms are separate, what instantiates them will remain separate from them and will therefore be a kind of "that in which." But, if the forms are not separate, no sense remains in which the Receptacle can be a "that in which." But Plato claims that it is. Aristotle, refusing to respect the separation claim, interprets the "that in which" claim to refer to place ($\chiώρα$), which he accepts to be a "that in which" for body. Accordingly he says: "Plato says in the *Timaeus* that matter and place ($\chiώρα$) are the same" (*Phys.* Δ 2. 209b11–12). But Plato, as I have argued, does not identify the Receptacle with place and has strong reasons to claim that the Receptacle is a "that in which." Therefore his account of the Receptacle is not confused.

I will now suggest an answer to the fundamental puzzle about the Receptacle raised by the second question. In Plato's view the physical world is constituted of things and their properties. Things are bodies, three-dimensional objects. Thanks to the working of Intelligence, these bodies are composed of regularly formed constituents. In terms of body, that is all there is. In other words, there is no thing that is the Receptacle. This being the case, there is no physical thing to which the claims made by (a) or the claims made by (b) apply. What, then, could the Receptacle be such that these claims apply to it? The answer is, I think, that Plato conceives the Receptacle to be what might be called a kind of "principle" ($\άρχη$).³⁸ Plato calls soul an "immortal $\άρχη$ " of the "mortal living thing" (42e7–8; 69e5–6). In order to explain the sense in which I am suggesting that the Receptacle is a kind of $\άρχη$ I wish to set aside the sense of $\άρχη$ as an origin of motion (cf. *Met.* Δ 1. 1013b34–35), which soul certainly is for Plato (see, e. g., *Phrd.* 245c9), and consider soul as an $\άρχη$ in the sense of being an integral and necessary factor of a living thing. In so far as a thing is living, soul must be integral to it. As being an integral factor soul is affected by the motions of the bodily substance that encompasses it (see, e. g., *Tim.* 43c7 ff), but as being somehow distinct and an immortal $\άρχη$ it remains unchanged. Though soul is distinct and immortal, it is always somehow within the body of the world. Soul, then, is both separate and distinguishable from its body and an integral part of a living thing taken as a whole. To claim this about soul is, of course, quite problematic. How can soul be both part of what a living thing is and separable from it and

38 I revisit the claim that the Receptacle is a kind of principle in ch. 5, pp. 215–17.

from that thing's body? Though Plato is quite aware of this difficulty he holds that soul is just such a thing. The Receptacle is a very different kind of thing from soul. Even so, its relation to the "triangles" is in a way similar to the relation I have just described that soul has to a living thing. The Receptacle is integral to the "triangles," and so to the elemental bodies they constitute; for this reason the claims made by (b) apply. The Receptacle is also something that is distinct from the "triangles," as being a "that in which" for their form; for this reason the claims made by (a) apply. The cosmological claim that there is something, a principle, that is both an originative factor of the world and integral to it is an old one – Anaximenes' "air" would be an example. One may question whether this notion of principle is entirely intelligible. Perhaps it is not, and Plato frankly struggles with it. Still, Plato and other philosophers of his period found it a useful notion and, one may add, it is not immediately obvious how the notion is entirely misguided. Modern science also speaks of principles, for instance the principle known as Planck's Constant or the principle of least action. Such principles are proposed laws that things are said necessarily to observe, not, one would think, an integral factor of things. But what, really, are such laws? Are they anything distinct from what things are and what they do? Well, yes and no. These are philosophically difficult areas of thought; I think we should allow Plato some conceptual latitude here.

In this chapter I have argued that Plato called the constituent bits of which the elemental bodies are made "triangles" homonymously. By so naming them he means to indicate that they *physically* instantiate what it is to be the ultimate constituent of a regular solid. They constitute regular bodies, bodies that are not shells but are, so to speak, full. This requires that the "triangles" are three-dimensional, physical simples that combine, in so far as possible, according to the pattern in which mathematical triangles combine to form mathematical solids. Because the Receptacle's function is to "receive" the coming-to-be of the elemental bodies and these bodies come to be by the combination of "triangles," the Receptacle and the "triangles" must stand in some kind of close relation. I have argued that the Receptacle is conceived to be a "that in which" for the form of triangularity that it "receives" and a "that out of which" for what is shaped, what of each "triangle" is not form. Finally, I have argued that Plato's notion of an entity that is both a "that in which" and a "that out of which" is not a confused one, as Aristotle charges, because the Receptacle is so in different ways. But, though not confused, the notion is difficult, as Plato himself is first to acknowledge.

Chapter V

Διὸ καὶ Πλάτων τὴν ὕλην καὶ τὴν χώραν
ταῦτο φησιν εἶναι ἐν τῷ Τιμαιῷ
(Aristotle, *Phys.* Δ 2. 209b11–12)

The Receptacle and Place

In the passage 47e3–53c3 Plato is usually thought to speak of just one thing under different descriptions. As I discussed in Chapter One, Plato is most commonly thought to speak of just matter, that is, some basic stuff, or just space – or however one translates χώρα. For example, some interpreters, perhaps Middle Platonists, held that Plato calls the Receptacle χώρα “metaphorically” with the intention of indicating that matter (the Receptacle) receives forms just as place receives bodies. According to this interpretation Plato speaks of just one thing: matter. Another common view holds that the proper name for what Plato introduces is χώρα, as indeed the text may seem to suggest (52d3), and that χώρα is a shadowy thing that in Plato’s mind serves both as what Aristotle would call “matter” of the elements and as some kind of spatial extension. In opposition to this general view, which is a broad form of what I shall call the One Entity View, I have argued in the foregoing chapters that Plato’s primary intent is to argue for what “receives” the coming-to-be of the elemental bodies, the Receptacle. I also have claimed that in a digression against a materialist view Plato also discusses place which, in Plato’s view, is also a third kind of thing, as is the Receptacle.¹ I have, therefore, argued for what may be called a Two Entity View. In this chapter I shall begin with further argument in support of my interpretation. I shall then address the One Entity View directly, and finally investigate why Plato acknowledges that the third kind of thing he proposes is very obscure and difficult to grasp.

I begin by listing the various claims that Plato makes about the Receptacle on the one hand and place (χώρα) on the other.

¹ I have also distinguished, as far as possible, between what Plato says about the third Kind and what he says about the cosmic members of this Kind; in this chapter I concern myself only with the cosmic members

Receptacle

- (i) receives elemental coming-to-be
- (ii) "that in which" for elemental coming-to-be
- (iii) not changed by what it "receives," only affected
- (iv) an "impress-holder" for elemental forms
- (v) obscurely partakes of the intelligible, difficult to grasp
- (vi) —
- (vii) invisible
- (viii) the stable referent of "this" (*τοῦτο*) for the elements
- (ix) elemental bodies are a qualified part of
- (x) is not identical to the "triangles"
- (xi) [a "that out of which" for what has "triangular" form]
- (xii) shakes as being the Nurse
- (xiii) as the Nurse causes the elements to move into distinct regions
- (xiv) precosmic factor in random body formation

Place (χώρα)

- (i) provides a place to whatever has coming-to-be
- (ii) χώρα
- (iii) does not admit destruction
- (iv) [receives into itself something (= some body) from somewhere]
- (v) grasped by a sort of bastard reasoning in the absence of perception
- (vi) scarcely an object of certainty
- (vii) [not grasped by direct perception]
- (viii) —
- (ix) —
- (x) —
- (xi) —
- (xii) —
- (xiii) —
- (xiv) [a necessary condition of precosmic motion]

In the foregoing chapters I have discussed each of these claims in reference either to the Receptacle or to place; I shall assume as given the explanations provided there. I shall now briefly compare each of these claims, pointing out similarities and differences.

On (i). The Receptacle "receives" the coming-to-be of the elements by being "moved and shaped (*χινούμενον καὶ διασχηματίζομενον*)" (50c2–3) as it temporarily adopts the forms of the regular solids by a rearrangement of "triangles." Plato argues at length that the Receptacle is a receiver by virtue of its formless or form-neutral nature. Therefore its reception consists in the adoption of form or shape, where "adoption" means a process of composition by "triangles."

The claim that place (*χώρα*) "provides a place (*ἔδραν*) to as many (things) as have coming-to-be" (52b1) parallels the claim that what comes to be "comes to be in some place" (a6). What "has coming-to-be" is bodies and, in a sense, their physical attributes. Bodies necessarily occupy place, so what comes to be is something that is "in a place." The language of "coming to be in a place" also refers to the process of locomotion that is required for the composition of bodies

out of smaller bodies and, ultimately, out of the elements. Therefore coming-to-be requires a place in which this motion can occur. $\chiώρα$, taken as a general term for place, "provides" a specific place ($\epsilon\deltaραν$) for each instance of composition by locomotion.

In conclusion, the Receptacle "receives" form by its being shaped. Place ($\chiώρα$) "provides" place to bodies whose components, in so far as these bodies are coming to be, are in motion. Such coming-to-be cannot occur without motion, and motion cannot occur without place. Therefore place is a necessary condition of bodily coming-to-be. Place, however, is neither "moved" nor "shaped" (it could not be); it does not "receive" form. Perhaps one may say that place "receives" a formed body, but what "received" means in this case would evidently be quite different from what "receives" means in the context of the Receptacle. Therefore what claim (i) signifies for the Receptacle and for place ($\chiώρα$) is quite different.

On (ii). The Receptacle is a "that in which" for elemental coming-to-be. This claim occurs in the argument that the Receptacle is the stable referent of "this," claim (viii). Granting that the elements change quickly and constantly and that we can use "this" correctly, the Receptacle is both a factor in what the elemental bodies are and something that remains unchanged by the process of elemental formation. To make this point Plato says that elemental coming-to-be occurs "in" the Receptacle because what occurs "in" something need not change that thing. That is, the expression "that in which" conveys a notion of separation. As is evident from (i), this separation does not entail that the Receptacle remains entirely unaffected by elemental coming-to-be or that it is not integral to it. I have discussed the precise sense in which the Receptacle is a "that in which" for elemental coming-to-be in Chapter Four (pp. 188–94).

$\chiώρα$ is place, either a specific place or place in general. Place is a "that in which" for bodies. It remains separate from and unaffected by the bodies that enter it. $\chiώρα$ is also a necessary condition of motion, and motion, as discussed above in (i), is required for the coming-to-be of bodies. $\chiώρα$ is, however, affected neither by bodily coming-to-be nor by motion that occurs in it. It follows that the Receptacle is not a "that in which" in the same way that place ($\chiώρα$) is. What is "in" each is different and the effect on each of what is "in" them is different.

Under (ii) I wish to raise the following point. I have claimed that both the Receptacle and place are, in Plato's account, members of the third Kind. This should entail that they possess the defining attributes of the third Kind in ways appropriate to the sort of things that they are. I argued in Chapter Two that Plato distinguishes the third Kind by making a conceptual distinction between the subject of coming-to-be and coming-to-be. On the one hand, coming-to-be cannot be entirely separated from what comes to be (its subject). On the other hand, Plato says that the third Kind is a "that in which" for the second Kind; this is a claim of separation. So the conceptual distinction raises the question, to what extent is the third Kind separable from the second? This question is answered with respect to

the members of the third Kind in rather different ways. The Receptacle is a “that in which” for the form it “receives,” but not, strictly speaking, for the element as a whole, that is, as a formed body. So it is not separable, strictly speaking, from the *elemental body* (element) that comes to be “in” it through the reception of form. The Receptacle, thus, displays the kind of qualified, conceptual separability that the initial distinction of the third Kind from the second suggests. Place, on the other hand, seems to have a much stronger form of separability. It is separable, strictly speaking, from the elemental bodies that come to be “in” it. The point, then, that I wish to raise is, does place’s unqualified separability imply that place should not be a member of the third Kind? The answer to this question lies, I think, in the fact that Plato does not think that place is perfectly separable from body, but only from individual bodies. I argued in Chapter Three that Plato conceives of place as place of body, which entails that if there were no body, there would be no place. Plato’s inclusion of place under the third Kind reveals an insight that place cannot be disassociated from body, such that we could speak of place as a self-standing entity: empty place or void would be such a thing and these Plato rejects. Aristotle, I suggest, embraced this insight and attempted to define more precisely than Plato had the relation between place and body. Place, then, is properly considered to be a third kind of thing, but is so in a way that is appropriate to what it is and in a way that distinguishes it from the Receptacle.

On (iii). Plato makes this claim when he says that the Receptacle “receives” but does not “take on” (50b8–c2) the forms of the elemental bodies in the manner discussed in (i). By this claim Plato seeks to establish that the Receptacle – that is portions of it – does not *become* earth or fire or the rest when these bodies are formed of the “triangles.” In so far as it does not undergo coming-to-be in the process of elemental formation it remains unchanged, though not unaffected.

Place (*χώρα*) is said “not to admit destruction.” This must mean that place is unchanged when it is occupied by bodies, that it remains precisely what it is. But, as I mentioned in (ii), place cannot be disassociated from body. This implies that if there were no body of any sort, there would be no place. So place is indestructible as being separable from body, but would not be indestructible if it were possible for body to be completely annihilated.

Because the Receptacle does not change as to what it is, one may conclude that it, like place, is indestructible. Although the Receptacle and place are thus alike, they are not so in the same ways. Plato does not claim that place does not become the body that occupies it; there would be no reason to make such a claim because it would be absurd to suppose that place could become body. But, on the contrary, it is not easy to grasp how the Receptacle does not become fire or earth. Plato thinks it is necessary to establish that there is no empty place, which is to say that although place is separable it is always occupied by body. No such claim is made about the Receptacle. From Plato’s account of the pre-cosmos it seems that he does not envision a “time” when the Receptacle does not “receive” some

random form, that is, when some randomly shaped body does not arise, but there seems to be nothing impossible about this being the case beyond the fact that the Receptacle would then not be a "receiver." Plato does say that the Receptacle always exercises its "power" (*δύναμις*) of receiving (50b7–8), but he suggests no reason why this must be the case. The Receptacle's neutrality to form both makes it the best possible "receiver" and suggests that it could be what it "is" independently of the reception of form. This is not true of place and body.

On (iv). Plato calls the Receptacle an "impress-holder" (*έχμαγεῖον*). The Receptacle takes an image by being "moved and shaped," as I mentioned in (i). Plato provides no corresponding claim about place. He does say of the first kind of thing, a thing that is, that it "does not receive into itself (*εἰσδεχόμενον εἰς ἑαυτό*) anything else from elsewhere" (52a2–3). I think that Plato intends here to distinguish "what is" from place. If so, perhaps we may conclude that Plato thinks place receives bodies into itself. But, as I pointed out in (i), what "receives" indicates in this case is not what "receives" indicates in reference to the Receptacle. If we grant that place receives bodies on the basis of the claim about "what is," it should be noted that the claim about "what is" refers to locomotion. So place is conceived here as "that into which" for something that moves out of another place. Place, then, receives as being a necessary condition of motion. The Receptacle, however, is not, as such, a condition of motion but itself moves, as I shall discuss under (xii).

On (v and vi). At the beginning Plato alerted us that the third Kind in general is "difficult and obscure" (49a3). Plato repeats the claim with reference to the Receptacle after he says that the Receptacle is not the elements or what they compose or what they are composed of. The elements are the first, most elementary, basic bodies; the "triangles" are the basic components of the first bodies. Neither of these are difficult to conceive of because they possess distinct, defined forms. But the Receptacle, we learn, is none of these; it is "formless" or "shapeless" (*ἄμορφον*; 51a7). The Receptacle is more basic than these ultimate simples and does not possess a form that would serve in definition. Therefore Plato says that it is very difficult to grasp and "partakes" in some obscure way of being intelligible (51a7–b1).

Place (*χώρα*) is also "difficult and obscure," but for different reasons. It is "grasped by a sort of bastard reasoning with absence of sensation" (52b2). In Chapter Three I argued that this statement refers to our derivation of the notion of place from our experience of replacement. On the basis of our experience of replacement we use our reason to analyze the fact that we are not perceiving something, namely that in which one body, then another, is found, and form a rough notion of place. But even though place is difficult to grasp, and this fact makes it "scarcely an object of certainty" (b2) (= vi), it is commonly recognized as a necessary fact of the physical world. Plato does not need to argue that there is such a thing. He is interested rather in overturning materialist arguments that appropriate the notion of place.

Both the Receptacle and place are hard to grasp (I shall return to this point below). The Receptacle is said to be so because of its lack of form; place is said to be so because we form a conception of it on the basis of an “absence of perception.” Therefore the Receptacle and place are “difficult and obscure” in quite different ways.

On (vii). Neither the Receptacle nor place are objects of perception; both are invisible. With respect to place, what perception informs us of is replacement, as I mentioned under (v and vi). We see bodies; we do not see the place they occupy. Our awareness of this place is derivative. As for the Receptacle, we cannot see individual elemental bodies, and *a fortiori* their component “triangles,” because of their minuteness. The Receptacle is not minute, so it is not invisible for this reason. It also does not become evident to us by reason of the absence of perceptible body, as in the case of place. In fact, it is essential to body. Body is all we see. But body is something that possesses form. So the Receptacle cannot be body. So it is not visible. Even so, Plato argues, when we are presented by body the Receptacle is not absent.

On (viii). The Receptacle is the stable ($\mu\acute{o}\nu\mu\alpha$: 49e3) referent of “this.” Although Plato makes no parallel claim about place, I will argue that we may, perhaps, supply one. To begin with, Plato’s first argument for the existence of the Receptacle is that there must be something to which we may point and say “this” even as we witness elemental change, provided that this were possible. There must be something because there must be something that is changing. We later learn that the change is actually a rearrangement of the constituent “triangles” which are a kind of mobile constant of which the Receptacle is an essential factor, but this explanation comes later. The intuition that Plato appeals to in this argument is our sense that body, although subject to constant change, has a certain stability even though we may not be able to perceive the source of this stability directly. What Plato means by “stability” is presumably elucidated by the Gold Analogy. Though the form of the object keeps changing, we can still identify the object that changes by saying “gold.” Now if, departing a bit from the analogy, we were to posit that only the changing forms are visible to us, we would see a succession of forms but nothing else. This more accurately resembles the case of elemental change. Would we say that there is nothing else but a succession of forms? I think not. Our intuitive response to this state of affairs would be to suppose that there is something that escapes our perceptual ability that has these forms. Why? Because there are no mere forms among the objects of our experience. So we will suppose, as Plato puts it, that there is something “in which each one comes to be” (49e7–8). Although we could not actually point to this something in so far as it is imperceptible, we would say that “this is now square, now rectangular.” In short, the claim that the Receptacle is the stable referent of “this” is directly linked to the claim that the elements undergo continual change.

Plato conceives of place (*χώρα*) as a “that into which” as well as a “that in which.” Motion, i. e., locomotion, is a body’s passage into a place from a place or else rotation in the same place (cf. 52a3; *Prm.* 138c5–6; *Tht.* 181c6–7: ὅταν τι χώραν ἐκ χώρας μεταβάλλῃ). A rotating body remains in the same place only with respect to linear motion, but the points on its surface do not remain in the same place (see *Rep.* 436e1–6), so we may say that locomotion is always a passage from a place into a place. If locomotion is this and what moves is the body, it must be the case that place does not move. For the sake of brevity I will not argue further for this claim. If we grant that Plato conceives of place as something that is unmoving with respect to bodies in motion, it will be the stable – in the sense of being unmoving – something by virtue of which we gauge or become aware of motion. In so far as place is stable, unmoving, we can use terms to refer to it, such as “here” and “there.”

In the senses just explained both the Receptacle and place are stable somethings to which terms can properly refer, but they are so in different ways and with respect to different things. The Receptacle is the stable referent of “this” with respect to elemental change; place is the stable referent of “here” or “there” with respect to moving bodies. One might wish to try to reduce the Receptacle to place by arguing that elemental change occurs by the motion of the “triangles” and therefore one might conclude that the Receptacle just is the general place in which the “triangles” move. This argument confuses two quite different things. No doubt, place is a necessary condition of the motion of the “triangles.” But place is not in any sense a constituent of the “triangles”; the Receptacle is. In elemental coming-to-be the Receptacle is the stable something that is “shaped” in the formation of the elemental bodies. In elemental coming-to-be place is the stable something into which the constituents of the elemental bodies move as they come together to form a new element. So both the Receptacle and place are stable somethings in elemental coming-to-be, but are not the same stable something.

On (ix). Each element is a formed body that manifests various properties. Following what was said under (viii), the “this” to which these properties are attributed is the Receptacle, which is a constituent of each element through the “triangles.” But only a certain number of “triangles” are arranged in each element. Plato therefore says that an elemental body is a qualified “part” (or, portion) of the Receptacle.

Plato makes no corresponding claim about place. If one were to conceive of place as a whole as that which is occupied by the world as a whole, individual bodies could be said to occupy individual places which would then be “parts” of place as a whole. Even so, such places are not in any sense qualified by the bodies that occupy them.

On (x and xi). In Chapter Four I have argued that the Receptacle is a “that out of which” for what has “triangular” form. From what I have said above under (viii) it should be evident that the “triangles” are always in a place or are moving

into a place from a place. So place is a “that in which” or “into which” for the “triangles,” but this is not the relation that the Receptacle has to the “triangles” taken as individual entities.

On (xii). According to the Nurse Analogy, the Receptacle shakes. The Receptacle shakes, we are told, because “it is filled with forces that are neither similar nor equally balanced” (52e1–3), these “forces” being the properties of the elemental bodies. By virtue of these properties the Receptacle is hot and cold and wet and so on in different parts of itself and this causes it to sway or shake. Why? Plato’s explanation is that motion always exists in a state of non-uniformity (see 57e2–58a1). By this he seems to mean that if a thing, *x*, has the same properties as another thing, *y*, *x* will have no tendency to displace *y* and *y* will have no tendency to displace *x*. The “parts” of the Receptacle are the elements. Two different elements are “parts” that have different properties. So the claim is that an elemental body with different properties from another will have a tendency to cause the other to move out of the place it occupies. Displacement goes on throughout the entire Receptacle with the result that the Receptacle “shakes.” But why will an elemental body of water, for instance, cause an elemental body of air to move from its place? Why would the water not remain in its own place? Plato’s answer is the old claim that like tends to be with like, which also underlies the claim that motion will exist where there is non-uniformity. So the water will tend to move toward other elemental bodies of water, but to do so it may need to displace the air. Plato calls the state of affairs in which elemental bodies displace others as they tend towards bodies like themselves the “wandering cause” (48a7). The claim that the Receptacle shakes refers to the action of the elemental bodies of which it is a component. To shake is to move and to move is to proceed from one place into another. Only bodies occupy place, but the Receptacle is not a body. Therefore the Receptacle shakes only in so far as its formed, qualified “parts” change places in the sense just explained.

Place is something that does not move (see viii). So the Receptacle which shakes by virtue of its “parts” that move cannot be place. Furthermore, place is not qualified by what occupies it, at least in the sense Plato states explicitly: e. g., it does not become moist. Claim (xii) has no parallel for place. The notion of place, however, is integral to (xii) because this claim is about elemental motion.

On (xiii). The shaking of the Receptacle causes the elemental bodies to move into distinct regions. I pointed out above the elemental bodies of the same kind tend to move towards themselves. Evidently Plato did not think that this tendency was sufficient to account for the assumed fact that by and large each of the elements occupies a distinct region. He therefore claims that the tendency is the cause of the shaking of the Receptacle but the shaking is the cause of the collection of the elements into their “home” regions. Perhaps Plato makes the second claim in response to the earlier arguments that explained the separation into regions by a “whirl” ($\deltaίνη$), a theory with which he was certainly acquainted (see

Phd. 99b7 and perhaps *Rep.* 620e3). Granting, then, that the tendency of like to seek like is insufficient, how does the shaking accomplish what the tendency cannot? The image Plato uses is that of winnowing (52e6–7) whereby “things most alike are driven together ($\sigma\upsilon\upsilon\omega\theta\epsilon\bar{\imath}\bar{\nu}$) into the same *<place>*” (53a5–6). This implies that force is needed to supplement the tendency. Force seems to be needed because the world is a plenum; if an elemental body is to move it must thrust another body from the place into which it will move. Furthermore, the elemental body which is being displaced will have its own tendency to join its like; it may therefore be the case that the tendencies of two elements may be in opposition. So the shaking, by adding some sort of force, makes collection into regions possible. The precise nature of this force is unstated.

It is evident that place ($\chi\omega\bar{\eta}\alpha$) cannot be a cause of motion into a place or region in the sense that the Receptacle is. Even so, Aristotle claims that natural place is a kind of cause (*Phys.* Δ I. 209a19), the ultimate effect of which is the separation of the elements into regions. Could Plato be making the same claim? Aristotle’s notion of a natural place is a place to which the elements move by nature. Motion is motion up or down or left or right or front or back; that is, motion always has a direction. But if motion has a direction, the place into which something moves must be determinate. For Aristotle place is determinate by reference to the spherical world which is in place as a container: down is towards the center, up away from the center, middle at the center. This being established, Aristotle can claim that the natural motion of fire is up, that is, away from the center, and towards its natural place, which is at the edge of the world. In brief, motion cannot occur without a direction, and there can be no direction without a determinate place to which the motion is directed. The point is that Aristotle’s notion of natural place and its role as a cause requires determinate place: the elements move up and down to regions made determinate by reference to the place that the world occupies. This being the sense in which place is a cause, Aristotle says that “*<place>* does not move things” (209a22). In Plato’s view, however, down is towards an element’s “home region,” which is determined by the amassing of like bodies, and up is away from it. For this reason – to give others would require a lengthy discussion of Aristotle’s physics – Plato makes no claim that corresponds to Aristotle’s account of place’s causal role.

On (xiv). In the pre-cosmos the Receptacle “received” the coming-to-be of the “traces,” that is, of the ultimate bodies, such as they were, that combined randomly to form larger ones. Plato’s claim, in so far as he makes it, is merely that in so far as there was coming-to-be the Receptacle must have been integral to it.

Plato’s most frequent way of describing the pre-cosmos is that things at that “time” moved in some disorderly way. So motion was a basic fact about the pre-cosmos. There cannot be motion without place into which something moves. Therefore place was necessary for precosmic motion. But motion occurs only when there is something that moves, namely, some sort of bodily entity. Bodily

entities are things that come to be, and their coming-to-be occurs by the motion of the their constituent parts. Therefore place had a necessary role in precosmic coming-to-be.

Both the Receptacle and place are necessary for coming-to-be in the pre-cosmos, but they fulfil different requirements. The Receptacle provides what undergoes random formation; place provides a “that into which” for random motion.

In my discussion of points (i) through (xiv) I have attempted to explain how Plato treats the Receptacle and place ($\chiώρα$). In a number of ways they are similar, but their similarity does not suggest that they are the same. Rather, what Plato says about the Receptacle and place leaves no doubt that he regarded them as different things.

In addition to points (i) through (xiv) it is also the case, more generally, that both place and the Receptacle are causes in the sense of being that a “that without which not” for bodily coming-to-be. All body occupies place. Furthermore, place is necessary for motion. Body, in as much as it is composite, comes to be through the combination of constituent parts; for this, motion is necessary. Therefore place is necessary for bodily coming-to-be. This is the case for bodies in general and the elemental bodies in particular. The Receptacle is that which “receives” the form and attendant qualities of the elements. If we conceive of what something is in terms of form – that is, if we say that x is (i. e., comes to be) by virtue of the fact that x has such and such a form – we should allow a distinction between the form that x has and what has that form. Without a “that which has the form” x could not be. In the case of the elements, and at a lower level the “triangles,” this is the Receptacle. Without the Receptacle there could be no coming-to-be of the elements and, therefore, of any body. So both the Receptacle and place are a “that without which not” for bodily coming-to-be, but in different ways.

The One Entity View

The foregoing is sufficient, I hope, to demonstrate that the Receptacle and place are not, in Plato’s view, identical. I want now to examine an interpretation that I call the One Entity View. According to the One Entity View Plato, in 47e3–53c3, speaks of just one entity employing a number of terms, chief among them being $\chiώρα$. Although the adherents of this view may prefer to translate $\chiώρα$ as “space,” no more is meant by “space” than “the single entity Plato speaks about in 47e3–53c3.” The One Entity View, then, opposes the interpretation for which I have argued precisely on the claim that Plato in 47e3–53c3 discusses two entities that are factors in the physical world, the Receptacle and place, not one. The first spokesman for a version of the One Entity View is Aristotle, in as much as Aristotle charges that Plato claimed that the Receptacle ($\tauὸ μεταληπτικόν$) and $\chiώρα$ are “one and the same” (*Phys. Δ* 2. 209b12–13). Perhaps one may reduce Aristotle’s

version of the One Entity View to this claim: Plato fails to distinguish between distinct senses of being “in.” So, failing to distinguish between the sense that “the form is in the matter” (*Phys.* Δ 3. 210a21) and the most basic sense of being in as “being in a vessel and generally in a place” (a24), Plato merges place and matter into one conceptually confused entity. According to Aristotle’s version of the One Entity View Plato’s account in 47e3–53c3 is confused and therefore must be rejected. I think that Aristotle’s judgment is correct: if Plato did fail to distinguish these two senses of being “in,” his account is confused. I mean to say that this version of the One Entity View entails that Plato has made a conceptual blunder. If, on the other hand, Plato did distinguish between different senses of being “in,” as I hope to have showed above, then Plato did not commit any such blunder.

Not all interpreters of Plato are as willing as Aristotle was to charge Plato with making blunders. To avoid this and still to hold the One Entity View one must discover an interpretation of 47e3–53c3 that offers on Plato’s behalf a consistent account that does not, on the one hand, confuse different senses of being “in” and does not, on the other hand, consider the claims Plato makes about either the Receptacle or $\chi\omega\varrho\alpha$ to be merely metaphorical or analogical (see ch. 1, I.1.α–γ). Such an interpretation is not easy to devise. It must be allowed that Aristotle has a point: generation and locomotion (or, location) require different kinds of subjects for which different senses of being “in” are appropriate. To surmount this problem the One Entity View must claim that Plato has a radically different view of the world than either Aristotle or ourselves, since I take it that most of us would more or less agree with Aristotle on this point. This version of the One Entity View, then, ascribes to Plato a physics that holds there to be a common subject of generation and locomotion. The interpretation discussed in Chapter One, II.2, is such an interpretation. That interpretation understands the Receptacle to be space, that is, a kind of field or medium in and on which images of Forms appear and then vanish; beyond these images there are no things. Because physical entities are no more than changing, appearing images, for a body to be in $\chi\omega\varrho\alpha$ and for it to come to be in $\chi\omega\varrho\alpha$ (that is, for the image to appear) are identical processes. This version of the One Entity View is, as far as I can tell, inwardly consistent, and it does seem to discover a sense in which there is one subject ($\chi\omega\varrho\alpha$) for both generation and locomotion, but if it succeeds in these respects, it does so at a very high cost. I think that we should be willing to commit Plato to this objectified, proto-phenomenalist view of physical reality only if we can find no other plausible interpretation of his physics and metaphysics. I do not wish here to digress into further argument against this version of the One Entity View. I mention it as evidence for the claim that a One Entity View that overcomes Aristotle’s charge will attribute to Plato a view so radical that we should be loath to accept that Plato held that view.

A possible exception to the claim I have just made is the interpretation (see III.1, ch. 1) that the single entity that Plato discusses in 47e3–53c3 is extension. Extension is certainly a fact about the world that we recognize, and it might not seem

necessary to adopt a radical physics and metaphysics in order to claim consistently that χώρα and the Receptacle are identical if they are just extension seen from different perspectives. Though this might seem to be the case, I think that for Plato to claim with consistency and without confusion that χώρα and the Receptacle are just extension would require that Plato had thought through the notion of extension in a manner for which there is no evidence, and against which there is evidence, in what he says about the Receptacle and χώρα. To begin with, Aristotle suggests (see my discussion in ch. 1, pp. 28–29) that Plato's apparent identification of the Receptacle (which Aristotle interprets to be matter) with χώρα can be explained by a confusion about διάστημα (interval, extension). Extension or interval resembles matter in that it is defined by limits, is inseparable from limits, and yet can be conceptually distinguished from these limits. Extension may also be confused with place (χώρα) in as much as the place occupied by a given magnitude may (wrongly in Aristotle's view) be thought to be the same as the extent of that magnitude. If Plato had followed the confused line of thought that Aristotle traces out, he would have thought that (a) the Receptacle (i. e., a portion of it) is the interval determined and limited by, for example, the surfaces that form each "triangle," and that (b) χώρα is the interval that a given magnitude occupies; so, in the case of a "triangle," the portion of the Receptacle delimited would be the χώρα occupied by the "triangle." I do not think that there is evidence that Plato thought either (a) or (b).

On (a). The notion of διάστημα is tied to the notion of limit because a διάστημα is what is enclosed by given limits. In Plato's account the Receptacle is what "receives" shape, not what has limit. Let us grant that shape is a kind of limit (cf., perhaps, *Meno* 76a5–6). Plato explicitly says that the Receptacle is "shapeless" (51a7: ἄμορφον), but διάστημα cannot be timeless. A διάστημα can be conceptually distinguished from its limits, but the claim that the Receptacle is shapeless is not a mere conceptual distinction.

On (b). Plato does not conceive χώρα to be the interval occupied by a given magnitude. Plato conceives χώρα to be "place into which," and as such, a necessary condition for the motion required for coming-to-be. Further, χώρα, as a "that into which," is separable from the bodies that occupy it; an interval is not separable. If the expression "occupies" conveys the notion that the occupier is separable from what is occupied, then it is strictly incorrect to claim that an interval is "occupied" by a magnitude (that is, what has a magnitude). This is the error to which Aristotle refers and I see no evidence that Plato made it.

In Late Antiquity matter was argued to be three-dimensional extension, where extension's necessary link to limit was severed and three-dimensionality was not held to be a kind of form that would impair matter's receptivity.² Even with these innovations a distinction between bodily and spatial extension was carefully maintained. Simplicius, for example, distinguishes between "material extension"

2 On matter as three-dimensionality see Sorabji 1987, 1988, 38, de Haas 1997, esp 165–278.

(ὑλικὴ διάστασις) and “spatial extension” (or, extended space: διαστώσα χώρα) that is not “mere extension”; spatial extension is, in his view, place (On *Phys.* 623.18–20). If a version of the One Entity View were to claim that the Receptacle and χώρα are one and the same as being extension, this version would need to claim that (a) Plato had a conception of extension as three-dimensionality that is divorced from limit and does not constitute a kind of form and that (b) he had an argument on the basis of which he collapsed the distinction between bodily and spatial extension.

On (a). Of course there is no evidence for (a). Even so, is (a) somehow entailed by what Plato says? At 53c5–8 Plato does say that all body has “depth” and that what has depth is enclosed by plane surfaces. This must be a claim that all body is three-dimensional and enclosed by limits (“planes”), a claim that serves as a preliminary to his account of the “triangles” and elemental constitution. I stated above that Plato holds that the Receptacle is “shapeless.” If we assume for the argument that what is shapeless is also devoid of limit, the Receptacle would be devoid of limit. By Plato’s account body is three-dimensional and enclosed by limits. If we conceptually remove the limits, what remains would not be body but would be three-dimensional and not limited. Aristotle’s sense of διάστημα, which implies limit, could not be applied to this not-limited, three-dimensional something. If, however, we adopt a sense of διάστημα (or διάστασις) that means just extension but not interval, we could call this three-dimensional extension. Now would Plato accept that the Receptacle is what remains when body is stripped of limit, that is, would Plato accept that the Receptacle is three-dimensional extension? It is very difficult to answer this question for Plato. It is at least clear that he does not conceive of the Receptacle in this way, as I think the list of claims about the Receptacle given earlier (claims (i) – (xiv)) reveals. It is significant, too, that Plato does not employ the argument – frequently used by Aristotle – that strips away properties in order to discuss the Receptacle. Later interpreters, under the influence of Aristotle’s account of matter, claimed that Plato refers to this argument by the expression “bastard reasoning,” but I see no basis for this interpretation. It is also difficult to answer for Plato whether three-dimensionality is a kind of form, but I would guess that he would not find it to be a property that impaired the Receptacle’s receptivity. The Receptacle does not lack all properties; it lacks those properties that, in Plato’s view, would make it a poor receiver of form. So on (a) we may say that Plato did not have the relevant conception of extension, but it is uncertain whether or not he would find such a conception acceptable or useful.

But what of (b)? What argument could Plato have to collapse the distinction between material and spatial extension, or, more generally, what argument could there be for this?³ Descartes, for example, writes to Roberval, “I clearly and

3 One could, of course, claim that Plato had no argument and collapsed the distinction as a result of careless or erroneous thinking, but on what basis could one make this claim? I very much doubt

distinctly see and know that body and space, which you think to be two distinct things because of some unknown blindness of intellect, are completely one and the same" (AT XI.689). And in the *Principles* he says, "Space or internal place does not in fact differ from bodily substance that is contained in it except in the way in which we usually conceive it. For, in truth, the extension in length, breadth, and depth which constitute space is manifestly the same as that which constitutes body" (AT VIII.45). Descartes' chief argument for the claim that body and space are the same is that if one conceptually takes away all the particular properties of a stone, nothing will remain but extension in the three dimensions, and "this same thing is contained in the idea of space" (46). Why is the same sort of extension "contained in the idea of space"? Descartes is building on notions of "space" worked out in the Middle Ages by various scholastic authors ("internal place" or "internal space" is a scholastic term). Very briefly (I shall follow Buridan here⁴), a distinction was made between "spatium" as being the "dimension of body," also called "spatium intrinsecum" (interior or intrinsic space), "spatium separatum" (separate or exterior space), and "locus" (place). Spatium as dimension of body largely corresponds to Simplicius' three-dimensional material extension; all body possesses this as an essential property. Following Aristotle's arguments against the possibility of void, separate or external space does not exist. Therefore external space, that is, three-dimensional extension that is not "of body" cannot be place, contrary to what Simplicius had suggested. Place is defined as Aristotle defined it, the surface or limit of the body containing what is in a place. These distinctions being made, it follows that spatium (space) can only be three-dimensional material extension or "dimension of body"; Aristotle might call this the "extent of the magnitude" (see above). Buridan's notion of spatium (space) is made somewhat clearer by the following argument. If God placed a person at the edge of the world, could the person reach beyond the edge and move her arm? Buridan says that the person could because there would be nothing that could resist the person's arm. But if it is objected that "there is no space into which she could extend her hand," Buridan replies: "I say that space is nothing but the dimension of the body and that your space is the dimension of your body. And before you raise your arm beyond this (last) sphere there would be nothing there, but after your arm has been raised there is space there, that is, the dimension of your arm."⁵ The objector argues that it is impossible to raise one's arm because there is no space, meaning place, into which one could raise it: outside the world there is nothing at all. Buridan also thinks that there is nothing outside the world, and therefore there would be no place (no surface of

that Plato can be shown to have a propensity to think carelessly or erroneously. In fact I think it can be demonstrated that a thoughtful argument lies behind every claim that he makes.

4 See the texts in Grant 1963.

5 See Grant 1963, 251–2, Grant 1981, 122.

a container). But because space just is “dimension of body,” the arm would be in space, the space that is “intrinsic” to body, and in the absence of place, this would be sufficient to serve as a “that into which.” Under the notion of “space” (spatium) Buridan collapses the distinction between material and spatial extension by claiming that the only “space” that exists is three-dimensional material extension (“dimension of body”).⁶ Someone who had this notion of space in mind might indeed “clearly and distinctly see and know that body and space are one and the same,” to quote Descartes.

Can we ascribe any of this reasoning to Plato? This version of the One Entity View would hold that the physical world consists of body; place and other spatial notions are therefore nothing apart from the arrangements of body.⁷ Body can be conceptually reduced to three-dimensional extension. Recognizing this – so this version holds – Plato refers to one entity, namely three-dimensional extension, by the terms Receptacle and $\chi\omega\rho\alpha$. The key move in this view is the reduction of spatial notions, such as place, to facts about bodies. In the discussion of $\chi\omega\rho\alpha$ Plato clearly distinguishes between bodies and $\chi\omega\rho\alpha$. Bodies belong to the second Kind, what comes to be, while $\chi\omega\rho\alpha$ is a third kind of thing. Plato subverts the materialist view that all that is is a body by pointing out that “not even that upon which it [i. e., the image, the physical] has come to be is its own” (52c2–3). If $\chi\omega\rho\alpha$ does not “belong” to bodies, it cannot be reduced to facts about bodies. To this point it may be objected that the One Entity View does not claim that $\chi\omega\rho\alpha$ and bodies are identical, but that $\chi\omega\rho\alpha$ and the Receptacle are identical; the Receptacle is not body. It is certainly right that the Receptacle is not body, but the Receptacle is that which “receives” the forms of the “triangles” out of which bodies are constructed. This being the case, I think that Plato is committed to holding that the Receptacle “belongs” to bodies (i. e., is integral to them) but he denies that this is true of $\chi\omega\rho\alpha$. Like everyone else of his time, Plato, rightly or wrongly, distinguished between place and what is material. In conclusion, the examination of points (a) and (b) just provided suggests that the version of the One Entity View that interprets Plato to speak of extension under the terms “Receptacle” and “ $\chi\omega\rho\alpha$ ” is implausible.⁸

Perhaps one might argue that although Plato would not have reduced spatial extension to facts about body, he would, and did, reduce facts about bodies to spatial extension. Such a version of the One Entity View attributes a view to

6 Cf Einstein 1961, vi. “Physical objects are not in space, but these objects are spatially extended. In this way the concept of ‘empty space’ loses its meaning.”

7 Cf Descartes, *Principles* II 13: “The words ‘place’ and ‘space’ do not signify anything different from body that is said to be in place, but denote just its magnitude, its figure, and its being situated among other bodies” (AT VIII.47).

8 I think, however, that if one were to argue that the identification of spatial and material extension is a step in the direction leading to modern notions (e. g., that space is just a “structural quality of the field” [Einstein 1961, 155]), one might see a glimmer of this in Plato’s claim that both the Receptacle and place are third kinds of things and therefore, to that extent, are similar.

Plato that is considerably less likely – granting that the *Timaeus* is a cosmological work – than the extension view just discussed. It is similar to interpretation II.1, Chapter One, according to which the elemental bodies are just empty space on which mathematical limit has been set. If this is the view, namely that Plato conceived the Receptacle and χώρα to be spatial extension, with the result that the elements are mathematically limited spatial extension, we would need to know what Plato might have meant by “spatial extension” as distinct from place. I do not believe there is any evidence that Plato had such a notion. Assuming the extension is three-dimensional and that “spatial” does not refer to the notion of place, there must be something that has this three-dimensionality. What is it? It would not be body, as in the former view. It could not be emptiness, unless Plato were to have accepted an atomist notion of the void; but it is certain that he did not. To say that “space” is the something that has three-dimensionality only begs the question. Conceptions of space as something distinct from and independent of body are the result of several thousand years of thought, thought that was not available to Plato and thought that may well be wrong. Therefore, until it can be demonstrated that Plato possessed an appropriate notion of spatial extension – as opposed to material extension – and why he did, what his arguments were, this version of the One Entity View remains implausible, even without consideration of the most improbable assertion that elemental bodies are, for Plato, mathematically delimited spatial extension. Furthermore, the argument given above, that the Receptacle “belongs” to body but χώρα does not, applies to this version as well.

The two versions of the One Entity View that I have addressed so far, that the One Entity is a field on which images of Forms appear or that it is extension, hold that the Receptacle and χώρα are one and the same thing. These are not views that hold that the Receptacle is matter, or that χώρα is space (under some definition), and then claim that Plato’s mention of χώρα in the first case or a conception of matter in the second case is metaphorical or analogical talk. I shall not address such forms of the One Entity View because I think that it should now be evident that Plato is not discussing *only* a conception of matter or *only* a conception of place or space. He is discussing both. The question I am investigating is whether he is doing so as one entity or as two.

Another version of the One Entity View, mentioned in Chapter One under IV.2, merges Plato’s metaphysical discussion of the third Kind with his account of the members, the Receptacle and χώρα, and thereby endeavors to discover in 47e3–53c3 an account of a radically new metaphysical/physical quasi-entity called “khora” (= χώρα). Central to this version is the claim that the one entity that Plato treats is not “caught or conceived” by any language Plato uses when he speaks of it; the “nonbeing” that “khora” is “cannot be declared” (Derrida 1998, 236). This one entity therefore lies beyond the reach of language and thought. I stated in Chapter One that I do not think that Plato’s account of the third kind of thing is

intended to make us aware of an unintelligible “nonbeing” in the structure of, and our experience of, the cosmos. But even if this version of the One Entity View (call it the “‘khora’ version”) is implausible as an interpretation of what Plato says, it does make the point that if one holds that everything that Plato says about the third Kind, the Receptacle, and place refers to a single entity, this entity seems to be quite unintelligible. Although I do not think that this recommends the “‘khora’” version, it is precisely what the “‘khora’” version claims and it can adduce as evidence on its behalf Plato’s frequent claim that the third kind of thing is “difficult,” “obscure” and “hard to grasp.” What, then, is the reason for these protestations? I see the following possibilities. (1) the “‘khora’” version is correct. Plato is in fact trying to turn our conceptions towards something inconceivable, the discussion of which requires us to “go back behind and below the assured discourse of philosophy” (Derrida 1998, 258). (2) Plato’s protestations arise from his own confusion, namely a confusion that merges the notions of material substrate and place and proposes just one entity that functions as both. (3) Plato says that the third Kind, the Receptacle, and place are obscure and difficult to grasp partly for methodological reasons and partly as an honest assessment of what his account of these entities is able to establish. It should be evident that possibilities (1) and (2) belong to versions of the One Entity View, while (3) belongs to the view for which I argue.

On (1) and (2). I have just claimed that (1) is implausible. (2), however, returns us to Aristotle’s version of the One Entity View. I think that Aristotle’s version of the View is the most plausible because it does not attribute to Plato kinds of notions that he would not have held. This version entails that Plato was confused. If Plato was muddled in his thinking about different senses of being “in,” he should have found the supposed single subject that is material substrate and place to be a very obscure thing indeed. But I have argued above that Plato does distinguish between different senses of being “in,” that is, he does not identify what “receives” the coming-to-be of the elements with place. If Plato is not confused, confusion cannot be the reason why he finds the entities he discusses to be obscure and difficult to grasp. It follows that there must be other reasons.

Why the third kind of thing is difficult to grasp

On (3). (3) claims that the third Kind, the Receptacle, and place are said to be difficult to grasp, each in their own way, for methodological reasons and because Plato thinks that these subjects of his investigation just are very difficult to grasp. The claim of (3) can also be restated thus: the kind of thinking required for the account is difficult and the results of this thinking process are difficult to understand. I shall begin with the methodological reasons.

The *Republic*, when Socrates finally gives his account of justice, provides a parallel case of what might be called the language of obscurity. Although this

language is used somewhat playfully in the *Republic*, I think that the parallel is informative. It is assumed that the state and the individual possess four virtues. Three, courage, wisdom, and temperance have been identified. Socrates then says to Glaucon that they must “like hunters station themselves round about the thicket with watchful minds lest justice somehow escape” because “it is clear that it is around here somewhere” (432b7–c1). The place or thicket in which justice is hiding, is, says Socrates, “difficult to walk in, very dark, . . . and hard to search through” ($\delta\upsilon\sigma\delta\iota\epsilon\rho\epsilon\gamma\eta\tau\omega\zeta$: c8). Socrates then abruptly changes the metaphor, saying that they have been stupid because “from the beginning it was rolling about at our feet,” and continues, “just as people sometimes search for the thing they are holding in their hands, so we too didn’t see it but looked off somewhere into the distance” (d7–e2). Socrates describes two stages of inquiry. They have adopted a methodology according to which the object of their inquiry will become evident by accounting for and withdrawing all other candidates (i. e., the three other principal virtues); justice is “what is left over” (433b7). But where does this give them? It leaves them, for the moment, in a dark place where it is difficult to make any progress, not with a discovery. The method of eliminating candidates does not give results that can be clearly understood. This is the first stage. But then Socrates reflects. The purpose of the reflection is to bring out positive facts about justice. Justice, he reflects “is what we laid down in the beginning that it must be established throughout the state when we were founding it” (433a1–3) and it is what “gave *(the other virtues)* the power to come to be in the state and preserves them when they have come to be as long as it remains *(in the state)*” (433b7–c1). To this he adds that “we have heard many people say, and we ourselves often say, that justice is to do what pertains to oneself and not to busy oneself *(with what does not so pertain)*” (433a8–b1). Socrates reflects that what they are looking for is a necessary condition, a “that without which not,” of the other virtues and of the state they sought to construct. He also brings to mind a frequently cited definition, what Aristotle might call a “common opinion” ($\epsilon\nu\delta\omega\xi\eta\omega$). Socrates then realizes that instead of groping in a dark place he already has in hand what he looks for: since it is a necessary condition of the rest and he has defined them and constructed the basic elements of the state, he must already know what justice is, and this corresponds to how justice is often defined. This is the second stage. The methodology, then, of eliminating candidates does not produce a clear result; the object of inquiry, in as much as it remains hidden in a “dark” place, is obscure and hard to grasp. A further move is needed; in this case, reflection that the object sought for is a kind of “that without which not” and reference to a working definition.

I shall now draw the parallel. Timaeus has already distinguished between what is and what comes to be. When he comes to the account of the construction of the elements he recognizes that although the two kinds of things “were sufficient from what was said before” (48e4–5), another kind of thing now is needed. This

being the case, whatever the new kind of thing is, it cannot be either something that is or something that comes to be; it cannot be either an intelligible or a sensible. These restrictions, set by the methodology adopted, leave the mind in what Plato might call a "dark place" and the object of inquiry, the sought-for third kind of thing, remains obscure and difficult to grasp. But Timaeus has means to emerge from the dark place because he has a sense of why a third kind of thing is needed, he can reflect that what he seeks is a "that without which not" for elemental coming-to-be. Timaeus therefore proceeds directly to the puzzles raised by elemental change and the need for a stable something "in which each one <of the elements> comes to be" (49e7). One might say of this stable something that it was "rolling about" at Timaeus' feet all the time. The parallel with the passage from the *Republic* falters at this point. Though Timaeus proceeds to examine the third thing as a "that without which not," he has nothing like a working definition to help the inquiry. So Timaeus' carefully argued account does not produce much clarity; it leaves us, to some significant degree, in the "dark place" where we struggle to conceive of what is neither being nor what comes to be. Recognizing that the object of inquiry is not this and not that, and that it is a necessary condition of some state of affairs, is not sufficient to produce clarity. This methodology, however, is productive of some results. This brings me to the second point: the results are difficult to understand.

The results of Timaeus' account are difficult to understand because of the kind of thing the account is about. Plato has a conceptual framework into which the third kind of thing must fit and for which the third kind of thing has a necessary role. This is to say that the requirements that Plato places on what he seeks to explain are such as to make his subject lie beyond the grasp of our usual conceptions. I shall try to show how this is the case from several Platonic considerations.

To explain elemental coming-to-be Plato thinks that he needs to give an account of a kind of causal factor, an ἀρχή or principle, which to this point in the *Timaeus* has not been mentioned. The notion of ἀρχή is central in ancient cosmology.⁹ The nature of the ἀρχαι for which a theorist argues determines the nature of the world she constructs. Plato, therefore, is careful to set down at the beginning of Timaeus' account that the cause of coming-to-be is Intelligence that does whatever it does with a view to what is good (see 28a5–b1). In a proper sense, then, Intelligence (including the intelligible paradigms) is Plato's ἀρχή or principle. But the notion of ἀρχή includes several senses of what something is "from."¹⁰ In one sense what comes to be is "from" its cause, Intelligence, but in another sense it is "from" what it is made of, what undergoes the action of the cause. Plato realizes that as he is about to set forth his account of the ultimate constituents of the physical world, the elements, he must treat what answers to

9 For a helpful discussion of this notion see Schofield 1997.

10 See Aristotle's treatment of ἀρχη in *Met.* Δ 1. 1012b34–1013a23

this second sense of “from.” But here is the point I wish to make. Plato does not want to make this second factor an ἀρχή or principle that enjoys a kind of causal equality with the first ἀρχή, Intelligence. Plato does not want to claim that there are two ἀρχαί.¹¹ To avoid this Plato makes the second factor a different kind of thing from the first, one that has a very different causal role. Here Plato probably draws on a distinction made in the *Phaedo*: “the real cause is one thing, while that without which the <real> cause would not be a cause is something else” (99b2–4). So the third kind of thing is not a “real” (*τῷ ὄντι*) cause or a “real” ἀρχή, but it is one only in a qualified sense. Into this conceptual framework Plato places his account of the third kind of thing. It is a kind of principle but not a “real” principle, a cause but not a “real” cause. But how are we to conceive of such a thing? Plato’s refusal to give the third kind of thing a direct causal role, and the fact that all we can say about it is that it is this sort of cause, predetermine that this thing be very difficult to grasp.

If we grant to Plato his claim about regular elemental change, the rejection of Heraclitean radical flux (that is, that things change at every moment in all respects), and that nothing can come to be from nothing, he must have an account of what it is that changes. If water changes into air, during the change water is no longer water, so what is changing? Plato’s solution to the problem of regular change is the theory that the elemental bodies resemble regular solids that are composed of “triangular” components, components that can combine only in certain patterns. This response to the problem is plausible in as much as it allows one to say what is undergoing change (the arrangement of the “triangles”) and why, to some extent, the change is regular. But Plato’s “triangles” are not atoms, indestructible, everlasting bodies; they are components of bodies that are not necessarily indestructible. If the “triangles” were atoms, the search for the ultimate explanatory factor would be complete; elemental coming-to-be just is the rearrangement of these ultimate bodies and we need look no further. Such a theory has considerable appeal, so why did Plato not embrace it? Plato’s objections to atomism are, of course, multiple. The reason for rejecting the atomist solution that is most relevant here is Plato’s commitment to claim that things are what they are by virtue of their relation to Form-paradigms. Things, according to Plato, are ontologically dependent on the Forms of which they are “images.” But atoms are what they are by virtue of themselves alone; they are self-subsistent. If the “triangles” were atoms, they would be what they are independently of any relation they might have to other things, including Forms. Plato’s “triangles” are what they are by virtue of their resemblance to the triangles into which geometric solids can be broken up. This resemblance consists in shape and function. But shape and function require something that has a shape and a function. Omitting from

¹¹ Aristotle, of course, had no such reservations. See, e. g., *Phys. A* 7, 190b17–20.

consideration the role of the divine Craftsman or Intelligence, paradigmatism requires a twofold account: an account of the Form along with the process by which it is resembled or instantiated, and an account of the thing that has the form or instantiation. This means that Plato, if he is to state the ultimate explanatory factors of elemental coming-to-be, must provide an account of the shape and function of the ultimate bits, the "triangles"; he does this at 53c4 and following. And he must also provide an account of what it is that has this shape and function and its source; this is the Receptacle. The Receptacle is plainly not one of the things that are, for if it were (i. e., if it belonged to the first Kind), it would be explanatory only in the sense that the paradigm is explanatory. Nor can the Receptacle be one of the things that come to be, that is, if it will be the explanatory factor needed. If what comes to be explains what comes to be, there will be an infinite regress; we will never reach an explanation of coming-to-be. An explanation of this requires reference to a some factor that would not form a step in a regress, that is, a kind of principle. The point that a principle is such a thing is made in the *Phaedrus*: "A principle (*ἀρχή*) does not come into being. For everything that comes to be comes to be from a principle, but <the principle> cannot come to be from <some other> one <thing>. For if it were to come to be from something <else>, it would not come to be from a principle"¹² (245d1–3). So the Receptacle must be something quite different, but this tells us little about what it is. Plato carefully instructs us, furthermore, that the forms that the Receptacle receives do not and cannot define what the Receptacle is because these are accidental to what it is. What can be said of the Receptacle can be said only on the basis of its causal function as being a "that without which not" for the coming-to-be of the elemental bodies. But the fact that it is a principle in this respect is not sufficient to define it or to enable us to conceive of it with any clarity.

I shall now turn to a rather different Platonic concern: Plato's response to problems raised by his early paradigmatism. Here I will follow the argument of Waterlow (-Broadie) 1982, which I find quite persuasive. Parmenides' so-called Third Man argument in the *Parmenides* raises the following difficulty. Granting that sensibles are *F* by virtue of their resemblance to the intelligible Form of *F*-ness, the Form of *F*-ness will resemble the sensibles in precisely the way that the sensibles resemble each other, namely, by exhibiting *F*-ness (see *Prm.* 132d5–6). This means that the Form of *F*-ness is a thing that is *F* in the way that the sensibles are. Sensibles depend on the Form of *F*-ness for their being *F*; it follows that this will be true of the Form of *F*-ness as well. So there must be a another intelligible Form of *F*-ness* on which the Form of *F*-ness and the sensi-

12 Taking the MSS reading with Schofield 1997, 228 and n. 23. The argument at this point seems to be that granted that everything comes to be from a principle, if a principle came to be from something else – something that is not a principle – then it would not come to be from a principle, contrary to what has been granted.

bles depend. And so on. Although one may argue that what Plato says of the relation of Forms to sensibles in the *Republic* and the *Phaedo* does not entail this regress, it remains the case that as soon as one attempts to state how the Forms actually account for things being *F*, how they are causes, the Third Man difficulty raises its head. As Waterlow (-Broadie) puts it (348–49), “If sensible characteristics are metaphysically transmitted by Forms, how can they not be essentially the same in Forms as in sensibles?” The solution to the difficulty is to propose a somewhat different kind of paradigmatism according to which the Forms are paradigms for a divine Craftsman who forms the resemblance in something that is radically distinct from Form, that is, in the third kind of thing. In this way the “transmission” is entirely contingent to what the Forms are and therefore the regress does not arise. It does not arise because once the third kind of thing, the Receptacle, is granted, the elemental bodies and the sensible things composed of them will exhibit the Form of *F*-ness by ultimately coming to be *F* in the Receptacle through the agency of the Craftsman; this cannot be the way that the Form of *F*-ness is *F*. If the Receptacle is to serve, in the way just explained, as part of a response to the Third Man objection, it must be radically distinct from Form, not participate in Form, and serve only as a “that without which not” for participation. How shall we conceive of such a thing? Again, the purposes for which Plato introduces the Receptacle require that it remain obscure to us.

In conclusion, Plato professes that the third kind of thing is obscure and difficult to grasp partly as a result of the methodology he employs, partly because of the predetermined place it must occupy within his conceptual framework. If what I have just argued is correct, the third kind of thing’s obscurity provides no support for the One Entity View.

With respect to the third thing’s obscurity I wish to raise one final question: Does this obscurity constitute evidence against the claim that there is such a thing? Before attempting to answer this question I bring up the following, connected point: I think that Plato finds it troubling that the necessary cosmic factor is so difficult to explicate. It is true that Plato seems to enjoy proposing claims that are subject to multiple interpretation, but I do not think he would wish to make a claim that, by his own admission, is nearly unintelligible. It is Plato who says in the voice of Socrates, “And this I claim to be doing now, investigating the statement (*λόγον*) for my own sake especially, but also perhaps <for the sake of> the advantage of others, or don’t you think that it is a good for almost all men in common that the manner of being of each one of the things that are become perfectly clear?” (*Chrm.* 166d4–6) There is nothing “perfectly clear” (*χαταφανές*) about the third kind of thing that Plato proposes, and Plato repeatedly emphasizes this fact. Beyond his admissions of obscurity we should note that Plato introduces his account of the third kind of thing with a prayer to the god that the exposition not endanger the account; I think we should regard this as a sign that Plato is less than enthusiastic about the results of his argument. The invocation is as follows: “Having called upon

god the deliverer now too at the beginning of the discourse to keep us safe from a paradoxical ($\alpha\tauόπον$) and strange exposition <so bringing us to> to the view ($\deltaόγμα$) of what is probable, let us begin again to speak" (48d4–e1). What Plato goes on to say is something from which the god must "keep us safe" ($\deltaιασώζειν ήμάς$). Lack of clarity is a dangerous thing, something that philosophy should strive avoid wherever possible.

This brings up a philosophical oddity. Aristotle betrays no hesitation when he proposes his notion of matter for the elements. For example: "We say that there is a kind of matter of sensible bodies, but that this is not separable but always with contrariety, out of which the so-called elements come to be. . . . We must suppose to be a principle <of the first bodies> and primary the matter, which is not separable but which underlies the contraries" (GC B I. 329a24–31). Perhaps Aristotle felt that his matter's inseparability, the fact that it is "always with contrariety," makes it something one can speak intelligibly about. But even though his matter is inseparable, it is conceptually distinguishable from form, as for example, "when limit and the qualities of a sphere are subtracted, nothing remains except the matter" (*Phys.* Δ 4. 209b9–10; cf. *Met.* Z 3. 1029a16–18). So what is the matter? It is very difficult to say. Even so, Aristotle seems not to find his proposal of such a notion worrisome. The claim that there is something fundamental to the world that defies clear conception because of its very nature was adopted by the Stoics (the so-called $\alpha\piοίον σῶμα$: body devoid of quality) and very many later philosophies of nature. We find Plutarch, a Middle Platonist, happily proclaiming that, "Plato discovered the elemental subject for generated qualities, which people now call matter and nature, and thus delivered philosophers from a great many puzzles" (*De defectu oraculorum* 10. 414f–415a [70.16–18]). Plutarch, apparently, finds nothing puzzling in the notion of matter, for a puzzle does not "deliver" one from a puzzle. My point is that, after Plato, no one in antiquity, with the exception of the Skeptics and perhaps the Epicureans, seems to have been troubled by the thought that they were positing something largely unintelligible as a basic fact of the world. Simplicius and Philoponus probably thought that interpreting matter as bare extension was a step out of the shadows, but is it? What is bare extension? The first, to my knowledge, strong objections to the notion of matter, or unintelligible substance, come with the British Empiricists, who were deeply suspicious of fuzzy notions. Berkeley, for instance, says: "If what you mean by the word 'matter' be only the unknown support of unknown qualities, it is no matter whether there is such a thing or no, since it no way concerns us; and I do not see the advantage there is in disputing about we know not *what*, and we know not *why*" (*Principles of Human Knowledge* 77). And Hume: "In order to reconcile which contradictions [i.e., due to successive change] the imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations; and this unintelligible something it calls a substance, or original and first matter"

(*Treatise* 4.3). The philosophical oddity, then, is why such a notion persisted so long even though philosophy has clarity as its chief aim. One reason for this oddity is probably that philosophers were unable to conceive of a clear notion that would do the work of this unclear one.

Although Plato thought that the “argument compels” (49a3) the introduction of a new kind of thing that remains obscure, I do not think he was comfortable with this. But later philosophers, beginning with Aristotle, seem to have been considerably more sanguine about embracing such a notion. Both Plato and those who followed him proposed an obscure something as a basic factor of their cosmology within a carefully argued conceptual framework for which this something was necessary. In so far as this something is required by the assumptions of the arguments for the framework, the claim that there is such a thing is consistent with these assumptions. Therefore the fact that it remains obscure is not direct evidence against the claim that there is such a thing, but it may be evidence against the assumptions that led to positing the claim and so may be evidence against the entire conceptual framework. Philosophers were willing to tolerate the notion of unintelligible substance only as long as they were willing to retain the assumptions on the basis of which it was posited. Although there is no evidence that Plato had serious doubts about his conceptual framework, I think that his worry over the obscurity of what the “argument compelled” him to posit is a testament to a philosophical honesty that prevented him from passing over without comment results that might throw doubt on his larger view. On the other hand, I also think we should allow that Plato’s move to argue for a claim that resists definition by his own concepts can be viewed as an example of the kind of thinking that has led to great discoveries in both philosophy and science, as I argued in the Introduction.

I wish to conclude my discussion of the Receptacle and place with the following argument. If we cannot discover a version of the One Entity View that is both a plausible interpretation of what Plato says and delivers him from the charge of confusing different senses of being “in,” and if we still hold that the One Entity View is correct, then we seem to be committed to accepting Aristotle’s judgment that Plato’s account is based on a conceptual blunder. As I said above, I think that Aristotle’s version of the One Entity View is the most plausible because it does not attribute to Plato notions that he could not have held. I think, therefore, that one must choose either to accept that Plato was confused in his account of the third kind of thing or that he was not and spoke of two different entities, the Receptacle and place. I have argued above that there is good reason to think that Plato thought he was treating two entities and actually did treat them as such. It seems to me that in interpreting Plato we should adhere to the principle of charity according to which we should attribute to Plato confusion only if there appear to be no other options. But there is another option.

Primary Texts Cited

ALCINOUS. Εἰσαγωγὴ εἰς τὸν Πλάτωνος διαλόγον. Ed. Hermann, C. F. (1853). In *Platonis dialogi secundum Thrasylli tetralogias dispositi VI*. 3rd edn. (1902): 152–89. Leipzig: B. G. Teubner.

ALEXANDER OF APHRODISIAS.

- φυσικαὶ σχολικαὶ ἀπορίαι καὶ λύσεις (*Quaestiones*). (Ed.) Bruns, I. (1887). *Commentaria in Aristotelem Graeca*. Supplementum II. Berlin: G. Reimer.
- *In Aristotelis de Sensu Librum Commentaria*. (Ed.) Wendland, P. (1901). *Commentaria in Aristotelem Graeca* III.1. Berlin: G. Reimer.

ANONYMUS. *De Meliso Xenophane Gorgia*. In (Ed.) Bekker, I. (1831). *Aristoteles Graece*. Berlin: G. Reimer

ARISTOTLE

- *Categoriae*. (Ed.) Minio-Paluello, L. (1980). Oxford Classical Texts. Oxford: The Clarendon Press.
- *De Caelo*. (Ed.) Guthrie, W. K. C. (1986). Loeb Classical Library. Cambridge, MA: Harvard University Press.
- *De Generatione et Corruptione*. (Ed.) E. S. Forster. (1978). Loeb Classical Library. Cambridge, MA: Harvard University Press.
- *Metaphysica*. (Ed.) Jaeger, W. (1988). Oxford Classical Texts. Oxford: The Clarendon Press.
- *Physica*. (Ed.) Ross, W. D. (1985). Oxford Classical Texts. Oxford: The Clarendon Press.

CHALCIDIUS. *In Timaeum*. (Ed.) Wrobel, J. (1876). Leipzig: B. G. Teubner.

CICERO. *Academica*. (Ed.) Plasberg, O. (1922 [1980]). Stuttgart. B. G. Teubner.

DIogenes Laertius. (Ed.) Long, H. J. Vols. I, II (1964). Oxford Classical Texts. Oxford: The Clarendon Press.

GORGIAS. Περὶ τοῦ μὴ ὄντος. In (Eds.) Diels, H. and Kranz, W. (1985). *Die Fragmente der Vorsokratiker II*. Zurich: Weidmann.

HIPPOCRATES.

- *De Diaeta*. (Ed.) Joly, R. (1984). *Corpus Medicorum Graecorum* I.2 4. Berlin: Akademie-Verlag.
- *De Generatione*. (Ed.) Lonie, I. (1981). Berlin: Walter de Gruyter.

PHILOPONUS.

- *In Aristotelis Libros de Generatione et Corruptione Commentaria*. (Ed.) Vitelli, H. (1897). *Commentaria in Aristotelem Graeca* XIV. Berlin: G. Reimer.
- *In Aristotelis de Anima Libros Commentaria*. (Ed.) Hayduck, M. (1897). *Commentaria in Aristotelem Graeca* XV. Berlin: G. Reimer.
- *In Aristotelis Physicorum Libros Commentaria* (Ed.) Vitelli, H. Vols. I, II (1888–89). *Commentaria in Aristotelem Graeca* XVI–XVII. Berlin: G. Reimer.

- PLATO. *Opera*. (Ed.) Burnet, J. Vols. I–V. (1985–87). Oxford Classical Texts. Oxford: The Clarendon Press.
- PLOTINUS. *Opera*. (Eds.) Henry, P. and Schwyzer, H.-R. Vols. I–III. (1978–82). Oxford Classical Texts. Oxford: The Clarendon Press.
- PLUTARCH.
- *De Defectu Oracularum*. (Ed.) Sieveking, W. (1929). Leipzig: B. G. Teubner.
 - *De Iside et Osiride*. (Ed.) Sieveking, W. (1932). Leipzig: B. G. Teubner.
 - *De Anima Procreatione in Timaeo*. (Ed.) Hubert, C. (1959). Leipzig: B. G. Teubner.
- PROCLUS. *In Platonis Timaeum Commentaria*. (Ed.) Diehl, E. Vols. I–III. (1903–6). Leipzig: B. G. Teubner.
- SEXTUS EMPIRICUS. *Adversus Mathematicos*. (Ed.) Mutschmann, H. (1914). In *Sexti Empirici Opera* 2. Leipzig: B. G. Teubner.
- SIMPLICIUS.
- *In Aristotelis De Caelo Commentaria* (Ed.) Heiberg, I.L. (1894). *Commentaria in Aristotelem Graeca* VII. Berlin: G. Reimer.
 - *In Aristotelis Physicorum Libros Commentaria* (Ed.) Diels, H. (1882). *Commentaria in Aristotelem Graeca* IX. Berlin: G. Reimer.
- THEOPHRASTUS.
- *De Odoribus*. (Eds.) Eigler, U. and Wöhrle, G. (1993). Stuttgart: B. G. Teubner.
 - *De Sensibus*. (Ed.) Diels, H. (1879 [1965]). In *Doxographi Graeci*. Berlin: W. De Gruyter.

Reference works cited

- Ast, D. Fridericus. (1969). *Lexicon Platonicum*. Reprinted New York: Burt Franklin.
- Denniston, J. D. (1987). *The Greek Particles*. Oxford: The Clarendon Press.
- Des Places, Édouard. (1970). *Platon Oeuvres Complètes Lexique*. Paris: Société d'Édition "Les Belles Lettres."
- Liddell, Scott, Jones & McKenzie (= LSJ). (1968) *Greek-English Lexicon*. Oxford: The Clarendon Press.
- Smyth, H. W. (1984). *Greek Grammar*. Cambridge: Harvard University Press.

Bibliography of Works Cited

- Algra, Keimpe. (1994). *Concepts of Space in Classical and Hellenistic Greek Philosophy*. Utrecht: Rijksuniversiteit te Utrecht.
- Allen, R. E. (Ed.). (1965). *Studies in Plato's Metaphysics*. London: Routledge and Kegan Paul.
- Archer-Hind, R. D. (1888). *The Timaeus of Plato*. London: Macmillan and Co.
- Ashbaugh, Anne Freire. (1988). *Plato's Theory of Explanation: A Study of the Cosmological Account in the Timaeus*. Albany, NY: State University of New York Press.
- Ast, G. A. F. (1835). Ueber die Materie in platonischen Timaeos. In *Abhandlungen der Bayerischen Academie der Wissenschaften* (pp. 45–54). Munich.
- Baeumker, Clemens. (1887). Die Ewigkeit der Welt bei Plato. *Philosophische Monatshefte* 23, 513–29.
- . (1890 [1963]). *Das Problem der Materie in der Griechischen Philosophie: Eine historisch-kritische Untersuchung*. Frankfurt am Main: Minerva.
- Barker, Andrew. (1978). ΣΥΜΦΩΝΟΙ ΑΡΥΘΜΟΙ: A Note on *Republic* 531c1–4. *Classical Philology* 73, 337–42.
- Bassfreund, Jacob. (1885). *Ueber das zweite Prinzip des Sinnlichen oder die Materie bei Plato*. Breslau: Th. Schatzky.
- Black, John A. (2000). *The Four Elements in Plato's Timaeus*. Lewiston, NY: The Edwin Mellen Press.
- Boeckh, August. (1866). Über die Bildung der Weltseele in Timaeus der Platon (1807). In F. Ascherson (Ed.), *August Boeckh's gesammelte kleine Schriften* (pp. 109–80). Leipzig: Teubner.
- Böhme, Gernot. (1975). Platons Theorie der exacten Wissenschaften. *Antike und Abendland* 21, 40–53.
- Bolton, Robert. (1975). Plato's distinction between Being and Becoming. *Review of Metaphysics* 29, 66–95.
- Bonitz, Hermann. (1837). De animae mundanae apud Platonem Elementis. In *Disputationes platonicae duae* Dresden: Blochmann.
- Bostock, David. (1994). *Aristotle Metaphysics: Books Z and H*. Oxford: Clarendon Press.
- Brown, Leslie. (1994). The verb 'to be' in Greek philosophy: some remarks. In S. Everson (Ed.), *Language* (pp. 212–36). Cambridge: Cambridge University Press.
- Bruins, E. M. (1951). La chimie du Timée. *Revue de Métaphysique et de Morale* 56, 269–82.
- Cherniss, Harold F. (1935). *Aristotle's Criticism of Presocratic Philosophy*. Baltimore: Johns Hopkins Press.
- . (1944). *Aristotle's Criticism of Plato and the Academy I*. Baltimore: Johns Hopkins Press.
- . (1945). *The Riddle of the Early Academy*. Berkeley, CA: University of California Press.

- (1954). A much misread passage of the *Timaeus* (*Timaeus* 49c7–50b5). *American Journal of Philology* 85, 113–30.
- (1956). *Timaeus* 52c2–5. In *Mélanges de Philosophie grecque offerts à Mgr Diès* (pp. 49–60). Paris: Librairie philosophie J. Vrin.
- (1957 = 1965). The relation of the *Timaeus* to Plato's later dialogues. *American Journal of Philology* 88, 225–66. Reprinted in Allen, R. E. (Ed.). *Studies in Plato's Metaphysics* (pp. 339–78). New York: The Humanities Press.
- (1977). *Selected Papers*. Leiden: E. J. Brill.
- Claghorn, Georges S. (1954). *Aristotle's Criticism of Plato's 'Timaeus'*. The Hague: Martinus Nijhoff.
- Clegg, J. G. (1976). Plato's vision of chaos. *Classical Quarterly* N.S. 26, 52–61.
- Code, Alan. (1988). Reply to Michael Frede's "Being and Becoming in Plato." *Oxford Studies in Ancient Philosophy, Supplement*, 53–60.
- Cook-Wilson, J. See Wilson, J. Cook.
- Cornford, Frances M. (1927 [= 1964]). Athenian Philosophical Schools. In *The Cambridge Ancient History* Cambridge: Cambridge University Press.
- (1930). Anaxagoras' Theory of Matter. *Classical Quarterly* 24, 14–30, 83–95.
- (1937 [1966]). *Plato's Cosmology: The Timaeus of Plato translated with Running Commentary*. London: Routledge and Kegan Paul.
- Crombie, I. M. (1963). *An Examination of Plato's Doctrines II: Plato on Knowledge and Reality*. London: Routledge and Kegan Paul.
- De Haas, Frans A. J. (1997). *John Philoponus' New Definition of Prime Matter*. Leiden: E. J. Brill.
- Derrida, Jaques. (1998 = 1987). Khora. In Wolfreys, Julian (Ed.), *The Derrida Reader* (231–62). Trans. McLeod, Ian. Lincoln, NE: University of Nebraska Press.
- Dillon, John M. (1977). *The Middle Platonists: 80 B. C. to A. D. 220*. Ithaca, NY: Cornell University Press.
- (1989). Tampering with the *Timaeus*: Ideological Emendations in Plato. *American Journal of Philosophy* 110, 50–72.
- Dressler, W. (1966). Griechisch /nt/ zu [nd] zu /d/. *Istituto orientali di Napoli Annali, Sezione Linguistica* 7, 60–69.
- Drummond, John J. (1982). Indivisible lines and the *Timaeus*. *Apeiron* 16, 63–70.
- Easterling, H. J. (1967). Causation in the *Timaeus* and *Laws* X. *Eranos* 65, 25–38.
- Einstein, Albert. (1961). *Relativity: the Special and General Theory, A Popular Exposition*. 15th ed. New York: Crown Publishers.
- Fine, Gail. (1993). *On Ideas: Aristotle's Criticism of Plato's Theory of Forms*. Oxford: The Clarendon Press.
- Frede, Michael. (1967). *Prädikation und Existenzaussage*. Göttingen: Vandenhoeck & Ruprecht.
- (1988). Being and becoming in Plato. *Oxford Studies in Ancient Philosophy, Supplement*, 37–52.
- (1992). Plato's Sophist on false statements. In Kraut, Richard (Ed.) *The Cambridge Companion to Plato* (pp. 397–424) Cambridge: Cambridge University Press.
- Friedländer, Paul (1949). Structure and destruction of the atom according to Plato's *Timaeus*. *University of California Publications in Philosophy* 16, 225–48.

- Friedman, Michael. (1985). Kant's theory of geometry. *The Philosophical Review* 94, 455–506.
- Furley, David J. (1987). *The Greek Cosmologists*. Cambridge: Cambridge University Press.
- Gadamer, Hans-Georg. (1974). Idee und Wirklichkeit in Platons "Timaios". In *Gesammelte Werke 6: Griechische Philosophie II* (pp. 242–70). Tübingen: J. C. B. Mohr.
- Gill, Mary Louise. (1987). Matter and flux in Plato's *Timaeus*. *Phronesis* 32, 34–53.
- . (1989). *Aristotle on Substance: the Paradox of Unity*. Princeton, NJ: Princeton University Press.
- Grant, Edward. (1963). Jean Buridan: a Fourteenth Century Cartesian. *Archives Internationales d'Histoire des Sciences* 16, 251–55.
- . (1981). *Much Ado about Nothing*. Cambridge: Cambridge University Press.
- Gribbon, John. (1995). *Schrödinger's Kittens and the Search for Reality*. Boston: Little Brown.
- Grote, G. (1888). *Plato and the other Companions of Sokrates* (2nd ed.). London: John Murray.
- Gulley, Norman. (1960). The interpretation of *Timaeus* 49d–e. *American Journal of Philology* 81, 53–64.
- Guthrie, W. K. C. (1978). *A History of Greek Philosophy V*. Cambridge: Cambridge University Press.
- Hackforth, R. (1944). Notes on some passages of Plato's *Timaeus*. *Classical Quarterly* 38, 33–40.
- Hammer-Jensen, I. (1910). Demokrit und Platon. *Archiv für Geschichte der Philosophie* 23, 92–105.
- Herter, H. (1957). Bewegung der Materie bei Platon. *Rheinisches Museum* 100, 327–47.
- Hunt, David P. (1998). The "Problem of Fire": Referring to Phenomena in Plato's *Timaeus*. *Ancient Philosophy* 18, 69–80.
- Huffman, Carl A. (1988). The Role of Number in Philolaus' Philosophy. *Phronesis* 33, 1–29.
- . (1993). *Philolaus of Croton, Pythagorean and Presocratic*. Cambridge: Cambridge University Press.
- Irwin, Terence H. (1977a). *Plato's Moral Theory*. Oxford: The Clarendon Press.
- . (1977b). Plato's Heracleiteanism. *Philosophical Quarterly* 27, 1–13.
- . (1987). Ways to First Principles: Aristotle's Methods of Discovery. *Philosophical Topics* 15 (2), 109–34.
- Jammer, Max. (1964). *Der Begriff der Masse in der Physik*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Kahn, Charles H. (1973). *The Verb 'Be' and its Synonyms*. Dordrecht: D. Reidel.
- . (1981). Some philosophical uses of 'to be' in Plato. *Phronesis* 26, 105–34.
- . (1993). Proleptic composition in the *Republic*. *Classical Quarterly* 43, 131–42.
- Keyt, David. (1961). Aristotle on Plato's Receptacle. *American Journal of Philology* 82, 291–300.
- Kurg, Joan. (1988). Why the Receptacle is not a mirror. *Archiv für Geschichte der Philosophie* 70, 167–78.

- Laks, André. (1999). Soul, Sensation, and Thought. In Long, A. A. (Ed.), *The Cambridge Companion to Early Greek Philosophy* (pp. 250–70). Cambridge: Cambridge University Press.
- Lang, Helen S. (1998). *The Order of Nature in Aristotle's Physics*. Cambridge: Cambridge University Press.
- Lee, Edward N. (1964). *The Concept of "Image" in Plato's Timaeus. Appendix: Studies in the text of Timaeus 48e–52d*. Dissertation. Princeton University.
- . (1966). On the metaphysics of the image in Plato's *Timaeus*. *The Monist* 50, 341–68.
- . (1967). On Plato's *Timaeus* 49d4–e7. *American Journal of Philology* 88, 1–28.
- . (1972). On the 'Gold Example' in Plato's *Timaeus* (50a5–b5). In Anton, John P. (Ed.), *Essays in Ancient Greek Philosophy* (pp. 219–35). Albany, NY: State University of New York Press.
- Lee, Mi-Kyoung. (2000). The Secret Doctrine: Plato's Defence of Protagoras in the *Theaetetus*. *Oxford Studies in Ancient Philosophy* 19, 47–86.
- Lennox, James G. (1985). Plato's unnatural teleology. In O'Meara, D. (Ed.), *Platonic Investigations* (pp. 195–218). Washington, DC: The Catholic University of America Press.
- Long, Iain M. (1981). *The Hippocratic Treatises On Generation, On the Nature of the Child, Diseases IV*. Berlin: Walter de Gruyter.
- Lyons, John. (1968). *Introduction to Theoretical Linguistics*. Cambridge: Cambridge University Press.
- Martin, Thomas Henri. (1841). *Études sur Le Timée de Platon II*. Paris: Ladrange Libraire.
- Maula, Erkka. (1970). Plato's "Mirror of Soul" in the *Timaeus*. *Ajatus. Yearbook of the Philosophical Society of Finland* 32, 160–83.
- McCabe, Mary Margaret. (1994). *Plato's Individuals*. Princeton, NJ: Princeton University Press.
- Menn, Stephen. (1995). *Plato on God as Nous*. Carbondale, IL: Southern Illinois University Press.
- Mejer, J. (1968). Plato, Protagoras, and the Heracleiteans: some suggestions concerning Th. 151d–186e. *Classica et Mediaevalia* 19, 40–60.
- Mill, John Stuart. (1890). *A System of Logic*. 8th ed. New York: Harper and Brothers.
- Mills, K. W. (1968). Some aspects of Plato's theory of Forms. *Phronesis* 13, 145–70.
- Mohr, Richard D. (1980). Image, flux, and space in Plato's *Timaeus*. *Phoenix* 34, 138–52.
- . (1985). *The Platonic Cosmology*. Leiden: E. J. Brill.
- Mondi, Robert. (1989). XAOΣ and the Hesiodic Cosmology. *Harvard Studies in Classical Philology* 92, 1–41.
- Moreau, Joseph. (1939 [= 1950]). Le Timée. In *Platon: Oeuvres Complètes II*. Bibliothèque de la Pléiade. Paris: Éditions Gallimard.
- Morrow, Glenn R. (1968). Plato's theory of primary bodies in the *Timaeus* and the Later doctrine of Forms. *Archiv für Geschichte der Philosophie* 50, 12–28.
- Mortley, R. J. (1967). Primary particles and secondary qualities in Plato's *Timaeus*. *Apeiron* 2, 15–17.
- Mueller, Ian. (1987). Aristotle's Approach to the Problem of Principles in *Metaphysics* M and N. In Graeser, A. (Ed.), *Mathematics and Metaphysics in Aristotle* (pp. 241–59). Bern: Paul Haupt.

- . (1998). Platonism and the Study of Nature. In Gentzler, J. (Ed.), *Method in Ancient Philosophy* (pp. 67–89). Oxford: Clarendon Press
- Nikolaou, Sousanna-Maria. (1998). *Die Atomlehre Demokrits und Platons Timaios*. Stuttgart: B. G. Teubner.
- Nussbaum, Martha (Ed.). (1986). *Logic, Science, and Dialectic*. Ithaca, NY: Cornell University Press.
- O'Meara, Dominic J. (Ed.) (1985). *Platonic Investigations. Studies in Philosophy and the History of Philosophy* 13. Washington, DC: The Catholic University of America Press.
- Owen, G. E. L. (1953). The place of the *Timaeus* in Plato's dialogues. *Classical Quarterly* N.S. 3, 79–95. Reprinted in Nussbaum, M. (1986): 65–84.
- . (1957). A proof in the *Peri Ideon*. *Journal of Hellenic Studies* 77, 103–11. Reprinted in Nussbaum, M. (1986): 165–79.
- . (1961). "Tithenai ta phainomena". In S. Mansion (Ed.), *Aristote et les problèmes de méthode* (pp. 83–103). Louvain. Publications Universitaires de Louvain. Reprinted in Nussbaum, M. (1986): 239–51.
- . (1965). Inherence. *Phronesis* 10, 97–105. Reprinted in Nussbaum, M. (1986): 252–58.
- Penner, Terence. (1987). *The Ascent from Nominalism: Some Existence Arguments in Plato's Middle Dialogues*. Dordrecht: D. Reidel Publishing Company.
- Phillips, John F. (1997). Neoplatonic exegesis of Plato's cosmology (*Timaeus* 27c–28c). *Journal of the History of Philosophy* 35: 173–97.
- Pohle, William B. (1971). The mathematical foundations of Plato's atomic physics. *Isis* 62, 26–46.
- Quine, W. V. O. (1960) [1989]. *Word and Object*. Cambridge, MA: M.I.T. Press.
- Reed, N. H. (1972). Plato on flux, perception and language. *Proceedings of the Cambridge Philological Society* 18, 65–77.
- Rivaud, Albert. (1956). Espace et changement dans le Timée de Platon. In *Mélanges de Philosophie grecque offerts à Mgr Diès* (pp. 209–14). Paris: Librairie Philosophique J. Vrin.
- Robin, Léon. (1908). *La Théorie Platonicienne des Idées et des Nombres d'après Aristote*. Paris: Félix Alcan.
- . (1957). *Les rapports de l'être et de la connaissance d'après Platon*. Paris: Presses universitaires de France.
- Ross, W. D. (1924). *Aristotle's Metaphysics I, II*. Oxford: Clarendon Press.
- . (1951). *Plato's Theory of Ideas*. Oxford: The Clarendon Press.
- Sachs, E. (1917). *Die Fünf platonischen Körper*. Berlin: Weidmannsche Buchhandlung.
- Sallis, John. (1999). *Chorology: On Beginning in Plato's Timaeus*. Bloomington, IN: Indiana University Press.
- Sartorius, M. (1886). Die Realität der Materie bei Plato. *Philosophische Monatshefte* 22(3), 129–67.
- Sayre, Kenneth M. (1998). The Role of the *Timaeus* in the Development of Plato's Late Ontology. *Ancient Philosophy* 18, 93–124.
- Scaltsas, Theodore. (1994). *Substance and Universals in Aristotle's Metaphysics*. Cornell, NY: Cornell University Press.
- Scheffel, Wolfgang. (1976). *Aspekte der Platonischen Kosmologie: Untersuchungen zu dem Dialog 'Timaios'*. Leiden: E. J. Brill.

- Schneider, Gustav. (1884). *Die platonische Metaphysik auf Grund der in Philebus gegebenen Principien*. Leipzig: Teubner.
- Schultz, Dietrich J. (1966). *Das Problem der Materie in Platons 'Timaios'*. Bonn: H. Bouvier Verlag.
- Shipp, G. P. (1958). Modern Greek. *Glotta* 37, 233–58.
- Siebeck, Hermann. (1888). Plato's Lehre von der Materie. In *Untersuchungen zur Philosophie der Griechen* (pp. 49–106). Freiburg: J. C. B. Mohr.
- Silverman, Alan. (1992). Timaeian particulars. *Classical Quarterly* 42, 87–113.
- Solmsen, Friedrich. (1960). *Aristotle's System of the Physical World: a Comparison with his Predecessors*. Cornell, NY: Cornell University Press.
- Sorabji, Richard. (1987). Simplicius: Prime matter as extension. In Hadot, I. (Ed.), *Simplicius: sa Vie, son Oeuvre, sa Survie* (pp. 148–65). Berlin: Walter de Gruyter.
- . (1988). *Matter, Space, and Motion: Theories in Antiquity and their Sequel*. London: Duckworth.
- Stenzel, Julius. (1920). Platon und Demokritos. *Neue Jahrbücher* 45, 89–100.
- . (1959). *Zahl und Gestalt bei Platon und Aristoteles* (3d ed.). Bad Homburg der Höhe: Hermann Genter Verlag.
- Strange, Stephen K. (1985). The double explanation in the *Timaeus*. *Ancient Philosophy* 5, 25–39.
- Striker, Gisela. (1996). *Essays on Hellenistic Epistemology and Ethics*. Cambridge: Cambridge University Press.
- Susemihl, Franz. (1860). *Die genetische Entwicklung der Platonischen Philosophie*. Leipzig: Teubner.
- Tarán, Leonardo. (1972). The creation myth in Plato's *Timaeus*. In Anton, J. P. (Ed.), *Essays in Ancient Greek Philosophy I* (pp. 372–407). Albany, NY: State University Press of New York.
- Taylor, A. E. (1928). *A Commentary on Plato's Timaeus*. Oxford: The Clarendon Press.
- Teichmuller, Gustav. (1874). *Studien zur Geschichte der Begriffe*. Berlin: Weidmannsche Buchhandlung.
- Tennemann, Wilhelm G. (1799). *Geschichte der Philosophie II*. Leipzig: Johann Ambrosius Barth.
- Turbayne, C. M. (1976). Plato's "Fantastic" appendix: the procreation model of the *Timaeus*. *Paideia* 5 (Special Plato Issue), 125–40.
- Ueberweg, Friedrich. (1854). Ueber die platonische Weltseele. *Rheinisches Museum für Philologie N.F.* 9, 37–84.
- Vlastos, Gregory. (1939). The disorderly motion in the *Timaeus*. *Classical Quarterly* 33, 71–83.
- . (1964a). Creation in the *Timaeus*: is it a fiction? In Allen, R. E. (Ed.), *Studies in Plato's Metaphysics* (pp. 401–19). London: Routledge and Kegan Paul.
- . (1964b). Creation in the *Timaeus*: is it a fiction? In Allen R. E. (Ed.), *Studies in Plato's Metaphysics* (pp. 401–19). London: Routledge and Kegan Paul.
- . (1967). Plato's supposed irregular atomic figures. *Isis* 58, 204–9.
- . (1975). *Plato's Universe*. Cornell: Cornell University Press.
- Waterlow (= Broadie), Sarah. (1982). The Third Man's Contribution to Plato's Paradigmatis. *Mind* 91, 339–57.

- Wieland, W. (1970). *Die aristotelische Physik* (2nd ed.). Göttingen: Vandenhoeck & Ruprecht.
- Whittaker, John. (1973). Textual comments on *Timaeus* 27c-d. *Phoenix* 27, 387–91.
- Wilpert, Paul. (1950). Die Elementenlehre des Platon und Demokrit. In J. Hansmeier (Ed.), *Natur, Geist, Geschichte: Festschrift für Aloys Wenzl* (pp. 49–66). Munich: Filscher-Verlag.
- Wilson, J. Cook. (1889). *On the Interpretation of Plato's Timaeus*. London: David Nutt.
- Wood, Richard, J. (1968) Plato's Atomism. *International Philosophical Quarterly* 8, 427–41.
- Zeller, Eduard (1839) Die Darstellung der Platonischen Philosophie bei Aristoteles. In *Platonische Studien* (pp. 199–300). Tübingen: C. F. Osiander.
- . (1922). *Die Philosophie der Griechen in ihrer geschichtliche Entwicklung* (5th ed.). Leipzig: O. R. Reisland.
- Zeyl, Donald J. (1975). Plato and talk of a world in flux: *Timaeus* 49a6–50b5. *Harvard Studies in Classical Philology* 79, 125–48.
- . (2000). *Plato: Timaeus*. Indianapolis: Hackett Publishing Co.
- Zhmud', Leonid J. (1989). "All is Number"? *Phronesis* 34, 270–92.

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